

GenCore version 5.1.6  
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## OM protein - protein search, using SW model

Run on: June 14, 2005, 15:46:34 ; Search time 20.7308 Seconds

(without alignments)  
50.412 Million cell updates/sec

Title: US-09-831-253F-2

Perfect score: 89

Sequence: 1 FCLGPPCPYIWSLDT 14

Scoring table: BioSUM62

Gapop 10.0 , Gapext: 0.5

Searched: 513545 seqs, 7464964 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents AA,\*

- 1: /cgn2\_6/ptodata/1/iaa/5A\_COMB.pep:\*
- 2: /cgn2\_6/ptodata/1/iaa/5B\_COMB.pep:\*
- 3: /cgn2\_6/ptodata/1/iaa/6A\_COMB.pep:\*
- 4: /cgn2\_6/ptodata/1/iaa/6B\_COMB.pep:\*
- 5: /cgn2\_6/ptodata/1/iaa/PCITS\_COMB.pep:\*
- 6: /cgn2\_6/ptodata/1/iaa/backfiles1.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Length	DB ID	Description
1	89	100.0	23 1	US-08-486-057B-26
2	89	100.0	23 2	US-08-789-588-26
3	89	100.0	25 4	US-09-095-637D-4
4	89	100.0	51 6	5168051-4
5	89	100.0	51 6	5168051-4
6	89	100.0	60 3	US-09-363-919A-122
7	89	100.0	60 4	US-09-791-301-122
8	89	100.0	70 4	US-09-848-664A-9
9	89	100.0	70 3	US-08-478-097A-1
10	89	100.0	98 3	US-08-931-858B-150
11	89	100.0	98 3	US-08-981-799-150
12	89	100.0	98 4	US-09-128-025-150
13	89	100.0	98 4	US-09-496-398-1
14	89	100.0	98 4	US-09-220-616-150
15	89	100.0	98 4	US-09-374-958C-40
16	89	100.0	98 4	US-09-220-527-150
17	89	100.0	98 4	US-09-220-527-150
18	89	100.0	112 1	US-07-979-741-1
19	89	100.0	112 1	US-08-197-792-36
20	89	100.0	112 1	US-08-486-057B-41
21	89	100.0	112 1	US-08-459-850-36
22	89	100.0	112 1	US-08-459-214-36
23	89	100.0	112 1	US-08-470-337-30
24	89	100.0	112 2	US-08-789-888-41
25	89	100.0	112 2	US-08-410-573-1
26	89	100.0	112 3	US-09-123-333-2
27	89	100.0	112 3	US-08-927-433-5

RESULT 1	US-08-486-057B-26	Sequence 26, Appl
	; Sequence 26, Application US/08486057B	Patent No. 5650494
	GENERAL INFORMATION:	
	APPLICANT: Cerletti, Nico	APPLICANT: Michael, Gary K.
	APPLICANT: Cox, David	APPLICANT: Schmitz, Albert
	APPLICANT: Meyhach, Bernd	APPLICANT:
	TITLE OF INVENTION: Process for Refolding Recombinantly Produced TGF-beta-like Proteins	TITLE OF INVENTION:
	NUMBER OF SEQUENCES: 43	NUMBER OF SEQUENCES:
	CORRESPONDENCE ADDRESS:	CORRESPONDENCE ADDRESS:
	ADRESSEE: Henry P. No. 5650494ak	ADRESSEE: Henry P. No. 5650494ak
	STREET: 520 White Plains Road, P.O. Box 2005	STREET: 520 White Plains Road, P.O. Box 2005
	CITY: Tarrytown	CITY: Tarrytown
	STATE: New York	STATE: New York
	COUNTRY: U.S.A.	COUNTRY: U.S.A.
	ZIP: 10591-9005	ZIP: 10591-9005
	COMPUTER READABLE FORM:	COMPUTER READABLE FORM:
	MEDIUM TYPE: Floppy disk	MEDIUM TYPE: Floppy disk
	COMPUTER: IBM PC compatible	COMPUTER: IBM PC compatible
	OPERATING SYSTEM: PC-DOOS/MS-DOS	OPERATING SYSTEM: PC-DOOS/MS-DOS
	SOFTWARE: Patternin Release #1.0, Version #1.3.0	SOFTWARE: Patternin Release #1.0, Version #1.3.0
	CURRENT APPLICATION DATA:	CURRENT APPLICATION DATA:
	APPLICATION NUMBER: US/08/486, 057B	APPLICATION NUMBER: US/08/486, 057B
	FILING DATE: 07-JUN-1995	FILING DATE: 07-JUN-1995
	CLASSIFICATION: 514	CLASSIFICATION: 514
	PRIOR APPLICATION DATA:	PRIOR APPLICATION DATA:
	APPLICATION NUMBER: US 08/201, 703	APPLICATION NUMBER: US 08/201, 703
	FILING DATE: 25-FEB-1994	FILING DATE: 25-FEB-1994
	PRIOR APPLICATION DATA:	PRIOR APPLICATION DATA:
	APPLICATION NUMBER: US 07/960, 309	APPLICATION NUMBER: US 07/960, 309
	FILING DATE: 13-OCT-1992	FILING DATE: 13-OCT-1992
	PRIOR APPLICATION DATA:	PRIOR APPLICATION DATA:
	APPLICATION NUMBER: US 07/621, 502	APPLICATION NUMBER: US 07/621, 502
	FILING DATE: 03-DEC-1990	FILING DATE: 03-DEC-1990
	PRIOR APPLICATION DATA:	PRIOR APPLICATION DATA:
	APPLICATION NUMBER: GB 8927546.5	APPLICATION NUMBER: GB 8927546.5
	FILING DATE: 06-DEC-1989	FILING DATE: 06-DEC-1989
	ATTORNEY/AGENT INFORMATION:	ATTORNEY/AGENT INFORMATION:
	NAME: No. 5650494ak, Henry P.	NAME: No. 5650494ak, Henry P.
	REGISTRATION NUMBER: 33200	REGISTRATION NUMBER: 33200
	REFERENCE/DOCKET NUMBER: 4-17861/+/Cont3	REFERENCE/DOCKET NUMBER: 4-17861/+/Cont3
	TELECOMMUNICATION INFORMATION:	TELECOMMUNICATION INFORMATION:
	TELEPHONE: (908) 277-5110	TELEPHONE: (908) 277-5110
	TELEFAX: (908) 277-4306	TELEFAX: (908) 277-4306
	SEQUENCE FOR SEQ ID NO: 26:	SEQUENCE FOR SEQ ID NO: 26:
	SEQUENCE CHARACTERISTICS:	SEQUENCE CHARACTERISTICS:

US-08-789-588-26

Query Match 100.0%; Score 89; DB 1; Length 23;  
Best Local Similarity 100.0%; Pred. No. 2.1e-05;  
Matches 14; Conservative 0; Mismatches 0;  
Indels 0; Gaps 0;

Qy 1 FCLGPCPYIWSLDT 14  
Db 6 FCLGPCPYIWSLDT 19

RESULT 2  
US-08-789-588-26  
Sequence 26, Application US/08789588  
; Sequence 26, Application US/08789588  
; Patent No. 592846  
; GENERAL INFORMATION:  
; APPLICANT: Cerletti, Nico  
; APPLICANT: McMaster, Gary K.  
; APPLICANT: Cox, David  
; APPLICANT: Schmitz, Albert  
; APPLICANT: Meyhak, Bernd  
; TITLE OF INVENTION: process for Refolding Recombinantly  
; TITLE OF INVENTION: Produced TGF-beta-like Proteins  
; NUMBER OF SEQUENCES: 43  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Henry P. No. 5922846ak  
; STREET: 520 White Plains Road, P.O. Box 2005  
; CITY: Tarrytown  
; STATE: New York  
; COUNTRY: U.S.A.  
; ZIP: 10591-9005  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/789. 588  
; FILING DATE:  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/486, 057  
; FILING DATE: 07-JUN-1995  
; APPLICATION NUMBER: US 08/201. 703  
; FILING DATE: 25-FEB-1994  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/960, 309  
; FILING DATE: 13-OCT-1992  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/621. 502  
; FILING DATE: 03-DEC-1990  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: GB 8927546. 5  
; FILING DATE: 06-DEC-1989  
; ATTORNEY/AGENT INFORMATION:  
; NAME: No. 5922846ak, Henry P.  
; REGISTRATION NUMBER: 33200  
; REFERENCE/DOCKET NUMBER: 4-17861/+/Cont3  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (908) 277-5110  
; TELEFAX: (908) 277-4306  
; INFORMATION FOR SEQ ID NO: 26:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 23 amino acids  
TYPE: amino acid  
STRANDEDNESS: not relevant  
TOPOLOGY: unknown  
MOLECULE TYPE: peptide

Query Match 100.0%; Score 89; DB 2; Length 23;  
Best Local Similarity 100.0%; Pred. No. 2.1e-05;  
Matches 14; Conservative 0; Mismatches 0;  
Indels 0; Gaps 0;

Qy 1 FCLGPCPYIWSLDT 14  
Db 6 FCLGPCPYIWSLDT 19

RESULT 3  
US-09-095-637D-4  
Sequence 4, Application US/09095637D  
; Sequence 4, Application US/09095637D  
; Patent No. 6500920  
; GENERAL INFORMATION:  
; APPLICANT: HUANG, Jung S.  
; TITLE OF INVENTION: AN INHIBITOR OF TRANSFORMING GROWTH FACTOR BETA AND A  
; TITLE OF INVENTION: METHOD OF INHIBITING THE BIOLOGICAL EFFECTS OF  
; FILE REFERENCE: 16153-1617  
; CURRENT APPLICATION NUMBER: US/09/095, 637D  
; CURRENT FILING DATE: 1998-06-11  
; NUMBER OF SEQ ID NOS: 11  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO: 4  
; LENGTH: 25  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-095-637D-4

Query Match 100.0%; Score 89; DB 4; Length 25;  
Best Local Similarity 100.0%; Pred. No. 2.2e-05;  
Matches 14; Conservative 0; Mismatches 0;  
Indels 0; Gaps 0;

Qy 1 FCLGPCPYIWSLDT 14  
Db 3 FCLGPCPYIWSLDT 16

RESULT 4  
5168051-4  
; Patent No. 5168051  
; APPLICANT: DERYNCK, RIK M.A.; GOEDDEL, DAVID V.  
; TITLE OF INVENTION: NUCLEIC ACID ENCODING TGF-B ITS USES  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/389, 929  
; FILING DATE: 04-AUG-1989  
; SEQ ID NO: 4:  
; LENGTH: 51  
5168051-4

Query Match 100.0%; Score 89; DB 6; Length 51;  
Best Local Similarity 100.0%; Pred. No. 4.1e-05;  
Matches 14; Conservative 0; Mismatches 0;  
Indels 0; Gaps 0;

Qy 1 FCLGPCPYIWSLDT 14  
Db 34 FCLGPCPYIWSLDT 47

RESULT 5  
5168051-4  
; Patent No. 5168051  
; APPLICANT: DERYNCK, RIK M.A.; GOEDDEL, DAVID V.  
; TITLE OF INVENTION: NUCLEIC ACID ENCODING TGF-B ITS USES  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/389, 929  
; FILING DATE: 04-AUG-1989  
; SEQ ID NO: 4:  
; LENGTH: 51

5168051-4

Query Match 100.0%; Score 89; DB 6; Length 51;  
 Best Local Similarity 100.0%; Pred. No. 4.1e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FCLGCPYIWSLDT 14  
 Db 34 FCLGCPYIWSLDT 47

RESULT 6

US-09-363-939A-122  
 Sequence 122, Application US/09363939A

PATENT NO. 6346611  
 GENERAL INFORMATION:

APPLICANT: Pagratis, Nikos

APPLICANT: Lochrie, Michael

APPLICANT: Gold, Larry

TITLE OF INVENTION: High Affinity TGFBeta Nucleic Acid Ligands and  
 TITLE OF INVENTION: Inhibitors

FILE REFERENCE: NEX07  
 CURRENT APPLICATION NUMBER: US/09/363, 939A

CURRENT FILING DATE: 1990-07-29

PRIOR APPLICATION NUMBER: 09/446, 247

PRIOR FILING DATE: 1998-03-23

PRIOR APPLICATION NUMBER: 08/1458, 424

PRIOR FILING DATE: 1995-06-02

PRIOR APPLICATION NUMBER: 07/114, 131

PRIOR FILING DATE: 1991-06-10

PRIOR APPLICATION NUMBER: 07/931, 473

PRIOR FILING DATE: 1992-08-17

PRIOR APPLICATION NUMBER: 07/964, 624

PRIOR FILING DATE: 1993-09-08

PRIOR APPLICATION NUMBER: 07/536, 428

PRIOR FILING DATE: 1990-06-11

NUMBER OF SEQ ID NOS: 216

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 122  
 LENGTH: 60

TYPE: PRT  
 ORGANISM: Artificial Sequence

FEATURE:  
 OTHER INFORMATION: Description of Artificial Sequence: Synthetic

OTHER INFORMATION: Sequence

US-09-363-939A-122

Query Match 100.0%; Score 89; DB 3; Length 60;  
 Best Local Similarity 100.0%; Pred. No. 4.7e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

PATENT NO. 6346611  
 GENERAL INFORMATION:

APPLICANT: Pagratis, Nikos

APPLICANT: Lochrie, Michael

APPLICANT: Gold, Larry

TITLE OF INVENTION: High Affinity TGFBeta Nucleic Acid Ligands and  
 TITLE OF INVENTION: Inhibitors

FILE REFERENCE: NEX 87/C  
 CURRENT APPLICATION NUMBER: US/09/791, 301

CURRENT FILING DATE: 2001-02-23

PRIOR APPLICATION NUMBER: 09/046, 247

PRIOR FILING DATE: 1998-03-23

5168051-4

PRIOR APPLICATION NUMBER: 08/458, 424  
 PRIOR FILING DATE: 1995-06-02

PRIOR APPLICATION NUMBER: 07/714, 131  
 PRIOR FILING DATE: 1991-06-10

PRIOR APPLICATION NUMBER: 07/931, 473  
 PRIOR FILING DATE: 1992-01-17

PRIOR APPLICATION NUMBER: 07/964, 624  
 PRIOR FILING DATE: 1992-10-21

PRIOR APPLICATION NUMBER: 08/117, 991  
 PRIOR FILING DATE: 1993-09-08

PRIOR APPLICATION NUMBER: 07/536, 428  
 PRIOR FILING DATE: 1990-01-11

PRIOR APPLICATION NUMBER: 09/363, 939  
 PRIOR FILING DATE: 1999-07-29

NUMBER OF SEQ ID NOS: 216  
 SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 122  
 LENGTH: 60

TYPE: PRT  
 ORGANISM: Artificial Sequence

FEATURE:  
 OTHER INFORMATION: Description of Artificial Sequence: Synthetic

US-09-791-301-122

Query Match 100.0%; Score 89; DB 4; Length 60;  
 Best Local Similarity 100.0%; Pred. No. 4.7e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

PATENT NO. 6723344  
 GENERAL INFORMATION:

APPLICANT: Sakikama, Elbert, Shelly E.

TITLE OF INVENTION: Controlled Release of No. 6723344-Heparin Binding Growth

FILE REFERENCE: BTH 108

CURRENT APPLICATION NUMBER: US/09/848, 664A

CURRENT FILING DATE: 2001-05-03

PRIOR APPLICATION NUMBER: US/09/298, 084A

PRIOR FILING DATE: 1999-04-22

NUMBER OF SEQ ID NOS: 31  
 SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 9  
 LENGTH: 70

TYPE: PRT  
 ORGANISM: Homo sapiens

US-09-848-664A-9

Query Match 100.0%; Score 89; DB 4; Length 70;  
 Best Local Similarity 100.0%; Pred. No. 5.4e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

PATENT NO. 6713616  
 GENERAL INFORMATION:

APPLICANT: Pagratis, Nikos

APPLICANT: Lochrie, Michael

APPLICANT: Gold, Larry

TITLE OF INVENTION: High Affinity TGFBeta Nucleic Acid Ligands and

TITLE OF INVENTION: Inhibitors

FILE REFERENCE: NEX 87/C

CURRENT APPLICATION NUMBER: US/09/791, 301

CURRENT FILING DATE: 2001-02-23

PRIOR APPLICATION NUMBER: 09/046, 247

PRIOR FILING DATE: 1998-03-23

5168051-4

Query Match 100.0%; Score 89; DB 4; Length 70;  
 Best Local Similarity 100.0%; Pred. No. 5.4e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

PATENT NO. 6040431  
 GENERAL INFORMATION:

APPLICANT: Keck, Peter

APPLICANT: Smart, John

TITLE OF INVENTION: SINGLE-CHAIN ANALOGS OF TGF-B



SEQUENCE DESCRIPTION: SEQ ID NO: 150:

US-08-981-739-150

Query Match

100.0%; Score 89; DB 3; Length 98;

Best Local Similarity 100.0%; Pred. No. 7.2e-05;

Mismatches 0; Indels 0; Gaps 0;

Matches 14; Conservative 0;

GENERAL INFORMATION:

APPLICANT: JOHNSON JR., EUGENE M.

APPLICANT: KOTZBAUER, PAUL T.

APPLICANT: LAMPE, PATRICIA A.

TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS

NUMBER OF SEQUENCES: 176

CORRESPONDENCE ADDRESS: ADDRESSEE: THIBEAULT, LLP

STREET: 125 HIGH STREET

CITY: BOSTON

STATE: MA

COUNTRY: USA

ZIP: 02110

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/496,398

FILING DATE:

PRIORITY APPLICATION DATA:

APPLICATION NUMBER: US 08/478,097

FILING DATE: 07-JUN-1995

CLASSIFICATION:

ATTORNEY/AGENT INFORMATION:

NAME: PITCHER ESO, EDMUND R

REGISTRATION NUMBER: 27,829

REFERENCE/DOCKET NUMBER: STK-059CN

TELECOMMUNICATION INFORMATION:

TELEPHONE: 617-248-7100

TELEFAX: 617-248-7100

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 98 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

FEATURE:

NAME/KEY: Protein

LOCATION: 1..98

OTHER INFORMATION: /note= "TGF-B1 SEQUENCE"

US-09-496-398-1

RESULT 13

US-09-436-398-1

Query Match

100.0%; Score 89; DB 4; Length 98;

Best Local Similarity 100.0%; Pred. No. 7.2e-05;

Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

GENERAL INFORMATION:

APPLICANT: SMART, JOHN

APPLICANT: KECK, PETER

TITLE OF INVENTION: SINGLE CHAIN ANALOGS OF TGF-B

NUMBER OF SEQUENCES: 176

CORRESPONDENCE ADDRESS:

ADDRESSEE: HOWELL & HAERKAMP, L.C.

STREET: 7133 FORSYTH BOULEVARD, SUITE 1400

CITY: ST. LOUIS

STATE: MISSOURI

COUNTRY: US

ZIP: 63105-1817

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: IBM PC compatible

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/128,026

FILING DATE:

PRIORITY APPLICATION DATA:

APPLICATION NUMBER: US 09/128,026

FILING DATE: 09-OCT-1995

CLASSIFICATION:

ATTORNEY/AGENT INFORMATION:

NAME: HOLLAND, DONALD R

REFERENCE/DOCKET NUMBER: 976163

TELECOMMUNICATION INFORMATION:

TELEPHONE: (314) 727-5188

TELEFAX: (314) 727-6092

INFORMATION FOR SEQ ID NO: 150:

SEQUENCE CHARACTERISTICS:

LENGTH: 98 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

FEATURE:

NAME/KEY: Protein

LOCATION: 1..98

OTHER INFORMATION: /note= "TGF-B1 SEQUENCE"

US-09-128-026-150

RESULT 14

US-09-220-616-150

Query Match

100.0%; Score 89; DB 4; Length 98;

Best Local Similarity 100.0%; Pred. No. 7.2e-05;

Mismatches 0; Indels 0; Gaps 0;

Matches 14; Conservative 0;

GENERAL INFORMATION:

APPLICANT: JOHNSON JR., EUGENE M.

APPLICANT: KOTZBAUER, PAUL T.

APPLICANT: LAMPE, PATRICIA A.

TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS

NUMBER OF SEQUENCES: 176

CORRESPONDENCE ADDRESS:

ADDRESSEE: HOWELL & HAERKAMP, L.C.

STREET: 7133 FORSYTH BOULEVARD, SUITE 1400

CITY: ST. LOUIS

STATE: MISSOURI

COUNTRY: US

ZIP: 63105-1817

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: IBM PC compatible

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/6398-1

FILING DATE:

PRIORITY APPLICATION DATA:

APPLICATION NUMBER: US 09/6398-1

FILING DATE: 09-OCT-1995

CLASSIFICATION:

ATTORNEY/AGENT INFORMATION:

NAME: HOLLAND, DONALD R

REFERENCE/DOCKET NUMBER: 976163

TELECOMMUNICATION INFORMATION:

TELEPHONE: (314) 727-5188

TELEFAX: (314) 727-6092

INFORMATION FOR SEQ ID NO: 150:

SEQUENCE CHARACTERISTICS:

LENGTH: 98 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

FEATURE:

NAME/KEY: Protein

LOCATION: 1..98

OTHER INFORMATION: /note= "TGF-B1 SEQUENCE"

US-09-6398-1

SOFTWARE: Patentin Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/220,616  
 FILING DATE:  
 CLASSIFICATION:  
 PRIORITY APPLICATION DATA:  
 APPLICATION NUMBER: US/09/981,739  
 FILING DATE: 31-Aug-1998  
 APPLICATION NUMBER: PCT/US97/03461  
 ATTORNEY/AGENT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35,197  
 REFERENCE/DOCKET NUMBER: 976163  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (314) 727-5188  
 TELEFAX: (314) 727-6092  
 INFORMATION FOR SEQ ID NO: 150:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: Peptide  
 US-09-220-616-150

RESULT 15

Query Match 100.0%; Score 89; DB 4; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 7.2e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	FCIGPCPYIWSDLT	14
Db	29	FCIGPCPYIWSDLT	42

US-09-374-958C-40

Sequence 40, Application US/09374958C  
 Patent No. 6677432

GENERAL INFORMATION:

APPLICANT: STYKE Corporation

TITLE OF INVENTION: Modified Proteins and DNAs of the TGF-beta Superfamily, Including FILE REFERENCE: STK-076

CURRENT APPLICATION NUMBER: US/09/374,958C

CURRENT FILING DATE: 1999-08-16

NUMBER OF SEQ ID NOS: 90

SOFTWARE: Patentin version 2.0

SEQ ID NO 40

LENGTH: 98

TYPE: PRT

ORGANISM: Homo sapiens

FEATURE:

OTHER INFORMATION: TGF-Beta1

US-09-374-958C-40

Query Match 100.0%; Score 89; DB 4; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 7.2e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	FCIGPCPYIWSDLT	14
Db	29	FCIGPCPYIWSDLT	42

Search completed: June 14, 2005, 16:10:14  
 Job time : 20.7308 secs

GenCore version 5.1.6  
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## OM protein - protein search, using sw model

Run on: June 14, 2005, 15:46:34 ; Search time 22.2115 Seconds

(without alignments)  
50.412 Million cell updates/sec

Title: US-09-831-253F-1  
Perfect score: 96  
Sequence: 1 HANFCILGPGCPYIWSL 15  
Scoring table: BLOSUM62  
Gapop 10.0 , Gapext: 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters:

513545

Minimum DB seq length: 0  
Maximum DB seq length: 200000000Post-processing: Minimum Match 0%  
Listing first 45 summaries

Database : Issued Patents AA,\*  
1: /cgpn2\_6/ptodata/1/iaa/5B-COMB.pep: \*  
2: /cgpn2\_6/ptodata/1/iaa/5B-COMB.pep: \*  
3: /cgpn2\_6/ptodata/1/iaa/6B-COMB.pep: \*  
4: /cgpn2\_6/ptodata/1/iaa/6B-COMB.pep: \*  
5: /cgpn2\_6/ptodata/1/iaa/PCUTUS-COMB.pep: \*  
6: /cgpn2\_6/ptodata/1/iaa/backfilesl.pep: \*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

%  
Result No. Score Query Match Length DB ID

Description

RESULT 1  
US-09-831-253F-1  
Sequence 26, Application US/08486057B  
; Patent No. 5650494  
GENERAL INFORMATION:  
APPLICANT: Carletti, Nico.  
APPLICANT: McMastor, Gary K.  
APPLICANT: Cox, David  
APPLICANT: Schmitz, Albert  
APPLICANT: Methack, Bernd  
TITLE OF INVENTION: Process for Refolding Recombinantly  
TITLE OF INVENTION: Produced TGF-beta-like Proteins  
NUMBER OF SEQNCES: 43

## CORRESPONDENCE ADDRESS:

ADDRESSE: Henry P. No. 5650494ak

STREET: 520 White Plains Road, P.O. Box 2005

CITY: Tarrytown

STATE: New York

COUNTRY: U.S.A.

ZIP: 10591-9005

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy diskCOMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS

PATENT: Patient Release #1.0, Version #1.30

PATENT NO. 5168051  
Patient No. 5168051

SEQUENCE: Sequence 26, Appl

SEQUENCE 1, Appl  
SEQUENCE 1, Appl  
SEQUENCE 23, Appl  
SEQUENCE 21, Appl  
SEQUENCE 23, Appl  
SEQUENCE 21, Appl  
SEQUENCE 21, Appl  
SEQUENCE 22, Appl  
SEQUENCE 21, Appl  
SEQUENCE 23, Appl  
SEQUENCE 21, Appl  
SEQUENCE 19, Appl  
SEQUENCE 25, Appl  
SEQUENCE 29, Appl  
SEQUENCE 19, Appl  
SEQUENCE 19, Appl  
SEQUENCE 29, Appl

REGISTRATION NUMBER: 33200  
REFERENCE/DOCKET NUMBER: 4-17861/+/Cont3  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (908) 277-5110  
TELEFAX: (908) 277-4506  
INFORMATION FOR SEQ ID: 26:  
SEQUENCE CHARACTERISTICS:  
Sequence 30, Appl

US-09-831-253f-1.ra1

RESULT 2  
US-08-789-588-26  
Sequence 26, Application US/08/89588  
; Patent No. 5922846  
; GENERAL INFORMATION:  
; APPLICANT: Cerletti, Nico  
; APPLICANT: McMaster, Gary K.  
; APPLICANT: Cox, David  
; APPLICANT: Schmitz, Albert  
; APPLICANT: Meyhack, Bernd  
; TITLE OF INVENTION: Process for Refolding Recombinantly  
; TITLE OF INVENTION: Produced TGF-beta-like Proteins  
; NUMBER OF SEQUENCES: 43  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Henry P. No. 5922846ak  
; STREET: 520 White Plains Road, P.O. Box 2005  
; CITY: Tarrytown  
; STATE: New York  
; COUNTRY: U.S.A.  
; ZIP: 10591-9005  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: FLOPPY DISK  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patient Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/789, 588  
; FILING DATE:  
; CLASSIFICATION: 530  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 08/486, 057  
; FILING DATE: 07-JUN-1995  
; APPLICATION NUMBER: US 08/201, 703  
; FILING DATE: 25-FEB-1994  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/960, 309  
; FILING DATE: 13-OCT-1992  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 07/621, 502  
; FILING DATE: 03-DEC-1990  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: GB 8927546.5  
; FILING DATE: 06-DEC-1989  
; ATTORNEY/AGENT INFORMATION:  
; NAME: No. 5922846ak, Henry P.  
; REGISTRATION NUMBER: 33200  
; REFERENCE/DOCKET NUMBER: 4-17861/+/Cont3  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (908) 277-5110  
; TELEFAX: (908) 277-4306  
; INFORMATION FOR SEQ ID NO: 26:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 23 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: not relevant  
; TOPOLOGY: unknown  
; MOLECULE TYPE: peptide

RESULT 3  
5168051-4  
; Patent No. 5168051  
; APPLICANT: DERYNCK, RIK M.A.; GOEDDEL, DAVID V.  
; TITLE OF INVENTION: NUCLEIC ACID ENCODING TGF-B ITS USES  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/389, 929  
; FILING DATE: 04-AUG-1989  
; SEQ ID NO: 4;  
; LENGTH: 51  
; 5168051-4

RESULT 4  
5168051-4  
; Patent No. 5168051  
; APPLICANT: DERYNCK, RIK M.A.; GOEDDEL, DAVID V.  
; TITLE OF INVENTION: NUCLEIC ACID ENCODING TGF-B ITS USES  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/389, 929  
; FILING DATE: 04-AUG-1989  
; SEQ ID NO: 4;  
; LENGTH: 51  
; 5168051-4

RESULT 5  
US-09-363-939A-122  
; Sequence 122, Application US/09363939A  
; Patent No. 6346511  
; GENERAL INFORMATION:  
; APPLICANT: Pagratis, Nikos  
; APPLICANT: Lochrie, Michael  
; APPLICANT: Gold, Larry  
; TITLE OF INVENTION: High Affinity TGFbeta Nucleic Acid Ligands and  
; FILE REFERENCE: NEX87  
; CURRENT APPLICATION NUMBER: US/09/363, 939A  
; CURRENT FILING DATE: 1999-07-29  
; PRIOR APPLICATION NUMBER: 09/046, 247  
; PRIOR FILING DATE: 1998-03-23  
; PRIOR APPLICATION NUMBER: 08/458, 424  
; PRIOR FILING DATE: 1995-06-02  
; PRIOR APPLICATION NUMBER: 07/714, 131

PRIOR FILING DATE: 1991-06-10  
PRIOR APPLICATION NUMBER: 07/931,473  
PRIOR FILING DATE: 1992-08-17  
PRIOR APPLICATION NUMBER: 07/964,624  
PRIOR FILING DATE: 1992-10-21  
PRIOR APPLICATION NUMBER: 08/117,991  
PRIOR FILING DATE: 1993-09-08  
PRIOR APPLICATION NUMBER: 07/536,428  
PRIOR FILING DATE: 1990-06-11  
NUMBER OF SEQ ID NOS: 216  
SOFTWARE: PatentIn Ver. 2.0  
SEQ ID NO: 122  
LENGTH: 60  
TYPE: PRT  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
US-09-363-939A-122

Query Match 100.0%; Score 96; DB 3; Length 60;  
Best Local Similarity 100.0%; Pred. No. 3.3e-06; Mismatches 0; Indels 0; Gaps 0;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 6  
US 09-791-301-122  
Sequence 122, Application US/09791301  
; Sequence 122, Application US/09791301  
; Patent No. 6713616  
; GENERAL INFORMATION:  
; APPLICANT: Fragatis, Nikos  
; APPLICANT: Locchise, Michael  
; APPLICANT: Gold, Larry  
; TITLE OF INVENTION: High Affinity TGF $\beta$  Nucleic Acid Ligands and  
; FILE REFERENCE: NEK 87/C  
; CURRENT APPLICATION NUMBER: US/09/791,301  
; CURRENT FILING DATE: 2001-02-23  
; PRIOR APPLICATION NUMBER: 09/046,247  
; PRIOR FILING DATE: 1998-03-23  
; PRIOR APPLICATION NUMBER: 08/458,424  
; PRIOR FILING DATE: 1995-06-02  
; PRIOR APPLICATION NUMBER: 07/714,131  
; PRIOR FILING DATE: 1991-06-10  
; PRIOR APPLICATION NUMBER: 07/931,473  
; PRIOR FILING DATE: 1992-08-17  
; PRIOR APPLICATION NUMBER: 07/964,624  
; PRIOR FILING DATE: 1992-10-21  
; PRIOR APPLICATION NUMBER: 08/117,991  
; PRIOR FILING DATE: 1993-09-08  
; PRIOR APPLICATION NUMBER: 07/536,428  
; PRIOR FILING DATE: 1990-06-11  
; PRIOR APPLICATION NUMBER: 09/363,939  
; PRIOR FILING DATE: 1999-07-29  
; NUMBER OF SEQ ID NOS: 216  
; SOFTWARE: PatentIn Ver. 2.0  
SEQ ID NO: 122  
LENGTH: 60  
TYPE: PRT  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: Description of Artificial sequence: Synthetic  
US-09-791-301-122

Query Match 100.0%; Score 96; DB 4; Length 60;  
Best Local Similarity 100.0%; Pred. No. 3.3e-06; Mismatches 0; Indels 0; Gaps 0;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 7  
US-09-848-664A-9  
Sequence 9, Application US/09848664A  
; Sequence 9, Application US/09848664A  
; Patent No. 6723344  
; GENERAL INFORMATION:  
; APPLICANT: Sakivama-Elbert, Shelly E.  
; APPLICANT: Hubbell, Jeffrey A.  
; TITLE OF INVENTION: Controlled Release of No. 6723344 Reparin Binding Growth  
; FILE REFERENCE: ETH 108  
; CURRENT APPLICATION NUMBER: US/09/948,664A  
; CURRENT FILING DATE: 2001-05-03  
; PRIOR APPLICATION NUMBER: US/09/298,084A  
; PRIOR FILING DATE: 1999-04-22  
; NUMBER OF SEQ ID NOS: 31  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO: 9  
; LENGTH: 70  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-09-848-664A-9

Query Match 100.0%; Score 96; DB 4; Length 70;  
Best Local Similarity 100.0%; Pred. No. 3.8e-06; Mismatches 0; Indels 0; Gaps 0;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 8  
US-09-478-097A-1  
Sequence 1, Application US/08478097A  
; Sequence 1, Application US/08478097A  
; Patent No. 6040431  
; GENERAL INFORMATION:  
; APPLICANT: KUCK, PETER  
; APPLICANT: SMART, JOHN  
; TITLE OF INVENTION: SINGLE-CHAIN ANALOGS OF TGF-B  
; TITLE OF INVENTION: SUPERFAMILY (MORPHONS)  
; NUMBER OF SEQUENCES: 45  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: THIBEAULT, LLP  
; STREET: 125 HIGH STREET  
; CITY: BOSTON  
; STATE: MA  
; COUNTRY: USA  
; ZIP: 02110  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/478,097A  
; FILING DATE:

CLASIFICATION: 530  
ATTORNEY/AGENT INFORMATION:  
NAME: PITCHER SEQ, EDMUND R  
REFERENCE/DOCKET NUMBER: CRP-080  
REGISTRATION NUMBER: 27,829  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 617-248-7000  
TELEFAX: 617-248-7100  
INFORMATION FOR SEQ ID NO: 1:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 98 amino acids

RESULT 9  
US-08-931-858E-150  
; Sequence 150, Application US/08931858E  
; Patent No. 6222022  
; GENERAL INFORMATION:  
; APPLICANT: JOHNSON JR., EUGENE M.  
; APPLICANT: KOTZBAUER, PAUL T.  
; APPLICANT: LAMPE, PATRICIA A.  
; APPLICANT: KLEIN, ROBERT  
; APPLICANT: DESAUVAGE, FRED  
TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR  
NUMBER OF SEQUENCES: 1  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: HOWELL & HAERKAMP, L.C.  
STREET: 773 FORSYTH BOULEVARD, SUITE 1400  
CITY: ST. LOUIS  
STATE: MISSOURI  
COUNTRY: US  
ZIP: 63105-1817  
COMPUTER READABLE FORM:  
MEDIUM TYPE: floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/981,739  
FILING DATE: 31-Aug-1998  
CLASSIFICATION: <Unknown>  
PRIORITY APPLICATION NUMBER: PCT/US97/03461  
APPLICATION NUMBER: PCT/US97/03461  
FILING DATE: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: HOLLAND, DONALD R.  
REGISTRATION NUMBER: 35,197  
REFERENCE/DOCKET NUMBER: 976163  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (314) 727-5188  
TELEFAX: (314) 727-6092  
INFORMATION FOR SEQ ID NO: 150:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 98 amino acids  
TYPE: amino acid  
STRANDBEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
SEQUENCE DESCRIPTION: SEQ ID NO: 150:  
US-08-981-739-150  
Query Match 100.0%; Score 96; DB 3; Length 98;  
Best Local Similarity 100.0%; Pred. No. 5.1e-06; Indels 0; Gaps 0;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
; MOLECULE TYPE: Peptide  
; US-08-931-858E-150  
; INFORMATION FOR SEQ ID NO: 150:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 98 amino acids  
TYPE: amino acid  
STRANDBEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-931-858E-150  
Query Match 100.0%; Score 96; DB 3; Length 98;  
Best Local Similarity 100.0%; Pred. No. 5.1e-06; Indels 0; Gaps 0;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
; MOLECULE TYPE: Peptide  
; US-08-931-858E-150  
; INFORMATION FOR SEQ ID NO: 150:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 98 amino acids  
TYPE: amino acid  
STRANDBEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-931-858E-150  
RESULT 10  
US-08-981-739-150  
; Sequence 150, Application US/08981739  
; Patent No. 6232449  
; GENERAL INFORMATION:  
; APPLICANT: JOHNSON JR., EUGENE M.  
; APPLICANT: KOTZBAUER, PAUL T.  
; APPLICANT: LAMPE, PATRICIA A.  
; APPLICANT: KLEIN, ROBERT  
; APPLICANT: DESAUVAGE, FRED  
TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS  
NUMBER OF SEQUENCES: 1  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: HOWELL & HAERKAMP, L.C.  
STREET: 773 FORSYTH BOULEVARD, SUITE 1400  
CITY: ST. LOUIS  
STATE: MISSOURI  
COUNTRY: US  
ZIP: 63105-1817  
COMPUTER READABLE FORM:  
MEDIUM TYPE: floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/981,739  
FILING DATE: 31-Aug-1998  
CLASSIFICATION: <Unknown>  
PRIORITY APPLICATION NUMBER: PCT/US97/03461  
APPLICATION NUMBER: PCT/US97/03461  
FILING DATE: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: HOLLAND, DONALD R.  
REGISTRATION NUMBER: 35,197  
REFERENCE/DOCKET NUMBER: 976163  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (314) 727-5188  
TELEFAX: (314) 727-6092  
INFORMATION FOR SEQ ID NO: 150:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 98 amino acids  
TYPE: amino acid  
STRANDBEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
SEQUENCE DESCRIPTION: SEQ ID NO: 150:  
US-08-981-739-150  
Query Match 100.0%; Score 96; DB 3; Length 98;  
Best Local Similarity 100.0%; Pred. No. 5.1e-06; Indels 0; Gaps 0;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
; MOLECULE TYPE: Peptide  
; US-08-931-858E-150  
; INFORMATION FOR SEQ ID NO: 150:  
SEQUENCE CHARACTERISTICS:  
PATENT NO. 6403355  
GENERAL INFORMATION:  
APPLICANT: JOHNSON JR., EUGENE M.  
APPLICANT: KOTZBAUER, PAUL T.  
APPLICANT: LAMPE, PATRICIA A.  
APPLICANT: KLEIN, ROBERT  
TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS  
NUMBER OF SEQUENCES: 1  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: HOWELL & HAERKAMP, L.C.  
STREET: 773 FORSYTH BOULEVARD, SUITE 1400  
CITY: ST. LOUIS  
STATE: MISSOURI  
COUNTRY: US

ZIP: 63105-1817  
 COMPUTER READABLE FORM:  
 COMPUTER TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/1128, 026  
 FILING DATE:  
 CLASSIFICATION:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35,197  
 REFERENCE/DOCKET NUMBER: 976163  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (314) 727-5188  
 TELEFAX: (314) 727-6092  
 INFORMATION FOR SEQ ID NO: 150:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: peptide  
 US-09-128-026-150

RESULT 12  
 US-09-496-398-1  
 ; Sequence 1, Application US/09496398  
 ; Patient No. 6479643  
 ; GENERAL INFORMATION:  
 ;  
 QY 1 HANFCLGPCPYIWSL 15  
 APPLICANT: KECK, PETER  
 APPLICANT: SMART, JOHN  
 TITLE OF INVENTION: SINGLE CHAIN ANALOGS OF TGF-B  
 NUMBER OF SEQUENCES: 45  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: PATENT ADMINISTRATOR, TESTA, HURWITZ &  
 STREET: 125 HIGH STREET  
 CITY: BOSTON  
 STATE: MA  
 COUNTRY: USA  
 ZIP: 02110

COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.25  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/496, 398  
 FILING DATE:  
 CLASSIFICATION:  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US 08/478, 097  
 FILING DATE: 07-JUN-1995  
 CLASSIFICATION:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: PITCHER BSO, EDMUND R  
 REGISTRATION NUMBER: 27,829  
 REFERENCE/DOCKET NUMBER: STK-059CN  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 617-248-7000  
 TELEFAX: 617-248-7100

RESULT 13  
 US-09-220-616-150  
 Sequence 150, Application US/09220616  
 Patent No. 6645937  
 GENERAL INFORMATION:  
 APPLICANT: JOHNSON JR., EUGENE M.  
 APPLICANT: MILBRANDT, JEFFREY D.  
 APPLICANT: KOTZBAUER, PAUL T.  
 APPLICANT: LAMPE, PATRICIA A.  
 TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS  
 NUMBER OF SEQUENCES: 176  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: HOWELL & HAERKAMP, L.C.  
 STREET: 773 FORSYTH BOULEVARD, SUITE 1400  
 CITY: ST. LOUIS  
 STATE: MISSOURI  
 COUNTRY: US  
 ZIP: 63105-1817  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/220, 616  
 FILING DATE:  
 CLASSIFICATION:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35,197  
 REFERENCE/DOCKET NUMBER: 976163  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (314) 727-5188  
 TELEFAX: (314) 727-6092  
 INFORMATION FOR SEQ ID NO: 150:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: peptide  
 US-09-220-616-150

Query Match 100.0%; Score 96; DB 4; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 5.1e-06;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HANFCLGPCPYIWSL 15  
; |||||  
; 26 HANFCLGPCPYIWSL 40

RESULT 14  
US-09-374-95BC-40  
; Sequence 40, Application US/0937495BC  
; Patent No. 667732  
GENERAL INFORMATION:  
; APPLICANT: Stryker Corporation  
; TITLE OF INVENTION: Modified Proteins and DNAs of the TGF-beta Superfamily, Including  
; TITLE OF INVENTION: Modified Morphogenic Proteins  
; FILE REFERENCE: STK-076  
; CURRENT APPLICATION NUMBER: US/09/374,95BC  
; CURRENT FILING DATE: 1999-08-16  
; NUMBER OF SEQ ID NOS: 90  
; SOFTWARE: PatentIn version 2.0  
; SEQ ID NO 40  
; LENGTH: 98  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; FEATURE:  
; OTHER INFORMATION: TGF-Beta1  
US-09-374-95BC-40

Query Match 100.0%; Score 96; DB 4; Length 98;  
Best Local Similarity 100.0%; Pred. No. 5.1e-06; Mismatches 0; Indels 0; Gaps 0;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HANFCLGPCPYIWSL 15  
; |||||  
; 26 HANFCLGPCPYIWSL 40

RESULT 15  
US-09-220-527-150  
; Sequence 150, Application US/09220527  
; Patent No. 6692943  
GENERAL INFORMATION:  
; APPLICANT: JOHNSON JR., EUGENE M.  
; MULBRANDT, JEFFREY D.  
; KOTZBAUER, PAUL T.  
; LAMEE, PATRICIA A.  
TITLE OF INVENTION: PERSPEPHIN AND RELATED GROWTH FACTORS  
NUMBER OF SEQUENCES: 176  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: HOWILL & HAERKAMP, L.C.  
STREET: 7733 FORSYTH BOULEVARD, SUITE 1400  
CITY: ST. LOUIS  
STATE: MISSOURI  
COUNTRY: US  
ZIP: 63105-1817  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.3.0

CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/220,527  
FILING DATE: 24-Dec-1998  
CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/08/981,739  
FILING DATE: 31-Aug-1998  
APPLICATION NUMBER: PCT/US97/03461  
FILING DATE: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: HOLLAND, DONALD R.  
REGISTRATION NUMBER: 35,197  
REFERENCE/DOCKET NUMBER: 976163  
TELECOMMUNICATION INFORMATION:

TELEPHONE: (314) 727-5188  
TELEFAX: (314) 727-6092  
INFORMATION FOR SEQ ID NO: 150:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 98 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: Peptide  
SEQUENCE DESCRIPTION: SEQ ID NO: 150:  
US-09-220-527-150

Query Match 100.0%; Score 96; DB 4; Length 98;  
Best Local Similarity 100.0%; Pred. No. 5.1e-05; Mismatches 0; Indels 0; Gaps 0;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HANFCLGPCPYIWSL 15  
; |||||  
; 26 HANFCLGPCPYIWSL 40

Search completed: June 14, 2005, 16:10:14  
Job time : 23.215 sec

GenCore version 5.1.6  
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OM protein - protein search, using sw model  
Run on: June 14, 2005, 15:29:15 ; Search time 85.9615 Seconds  
(without alignments)

67.488 Million cell updates/sec  
Title: US-09-831-253f-1  
Perfect score: 96  
Sequence: 1 HANFCLGCPYIWSL 15

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext: 0.5

Searched: 2105692 seqs, 386760361 residues

Total number of hits satisfying chosen parameters: 2105692  
Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_GeneSeq\_16Dec04:\*

- 1: geneseqp1980s:\*
- 2: geneseqp1990s:\*
- 3: geneseqp2000s:\*
- 4: geneseqp2001s:\*
- 5: geneseqp2002s:\*
- 6: geneseqp2003aa:\*
- 7: geneseqp2003bs:\*
- 8: geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	96	100.0	15	3 AAY92965	Aay92965 Transform
2	96	100.0	15	3 AAY9245	Aay9245 Transform
3	96	100.0	23	3 AAY92983	Aay92983 Transform
4	96	100.0	23	3 AAY92954	Aay92954 Transform
5	96	100.0	50	2 ARK0828	Ark0828 Pre-trans
6	96	100.0	51	2 ARP04075	Arp04075 Sequence
7	96	100.0	51	2 AAW78788	AAw78788 Human tra
8	96	100.0	51	4 ABB43879	Abb43879 Peptide #
9	96	100.0	51	4 AMR37799	Aam37799 Peptide #
10	96	100.0	51	4 AMT7705	Aamt7705 Human bo
11	96	100.0	51	5 ABG46640	Abg46640 Human pep
12	96	100.0	60	4 ARB68285	Arb68285 Human TGF
13	96	100.0	62	2 AAW30331	AAw30331 Fragment
14	96	100.0	65	2 ARK22135	Ark22135 PDGI subu
15	96	100.0	98	2 AAY16697	Aay16697 WO99142235
16	96	100.0	98	3 AAY92554	Aay92554 TGB-beta
17	96	100.0	98	3 ARB09519	Arb09519 Human TGF
18	96	100.0	98	3 ARB02785	Arb02785 Human TGF
19	96	100.0	112	2 ARR08142	Aar08142 Platelet-
20	96	100.0	112	2 ARR04076	Aar04076 Sequence
21	96	100.0	112	2 ARR2402	Aar2402 Transform
22	96	100.0	112	2 ARR22134	Aar22134 PDGI subu
23	96	100.0	112	2 ARR43263	Aar43263 TGF-beta.
24	96	100.0	112	2 ARR42311	Aar42311 Recombina
25	96	100.0	112	2 AAR92773	Aar92773 Human TGF

RESULTS

RESULT 1

ID AAY92965 standard; peptide; 15 AA.

XX

AC AAY92965;

XX

DT 08-NOV-2000 (first entry)

DE Transforming growth factor inhibitory peptide P11.

XX

KW Hepatotrophic; antagonist; transforming growth factor betal; TGF-b1; competitive inhibition; collagen synthesis stimulation inhibitor; liver; extracellular matrix degradation inhibitor; mimetope; cirrhosis.

XX

OS Homo sapiens.

XX

PN WO20031135-A1.

XX

PD 02-JUN-2000.

XX

PR 23-NOV-1999; 99WO-ES000375.

XX

PR 24-NOV-1998; 98ES-00002465.

XX

PA (CIEN) INST CIENTIFICO & TECNOLOGICO NAVARRA.

XX

PI Ezquerro Saenz IJ, Lasarte Sagastibarria JJ, Prieto Valtuena J; Borras Cuesta F;

PI

XX

DR WPI; 2000-411935/35.

XX

PT Peptides that antagonize binding of transforming growth factor betal, useful for treatment of liver disease, especially cirrhosis, are partial sequences of the factor or its receptors.

XX

PS Disclosure; Page 22; 86pp; Spanish.

XX

PT Peptides that antagonize binding of transforming growth factor betal, useful for treatment of liver disease, especially cirrhosis, are partial sequences of the factor or its receptors.

XX

CC

The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor betal (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY9245-Y3133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimetics and/or DNA (or RNA) expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis

CC

XX	Sequence 15 AA;	AAV92983
ID	AY92983; standard; peptide; 23 AA.	
XX		
AC	AY92983;	
XX		
DT	08-NOV-2000 (first entry)	
XX		
DE	Transforming growth factor inhibitory peptide P29.	
XX		
KW	Hepatotropic; antagonist; transforming Growth factor betal; TGF-bl; liver; competitive inhibition; collagen synthesis stimulation inhibitor; liver; extracellular matrix degradation inhibitor; mimotope; cirrhosis.	
XX		
KW	Homo sapiens.	
OS		
XX		
PN	WO20031135-A1.	
XX		
PD	02-JUN-2000.	
XX		
PP	23-NOV-1999; 99WO-ES000375.	
XX		
PR	24-NOV-1998; 98ES-00002465.	
XX		
PA	(CEN-) INST CIENTIFICO & TECNOLOGICO NAVARRA.	
XX		
PI	Ezquerro Saenz IJ, Labarte Sagastibelza JJ, Prieto Valtuena J;	
PT	Borras Cuesta F;	
XX		
DR	WPI; 2000-411935/35.	
XX		
PT	Peptides that antagonize binding of transforming growth factor betal, useful for treatment of liver disease, especially cirrhosis, are partial sequences of the factor or its receptors.	
XX		
PT	The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor betal (TGF-bl) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-bl and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-bl to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimetopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis.	
XX		
PS	Claim 2; Page 80; 86pp; Spanish.	
XX		
CC	The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor betal (TGF-bl) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-bl and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-bl to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimetopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis.	
XX		
SQ	Sequence 23 AA;	
Query Match	100.0%; Score 96; DB 3; Length 23;	
Best Local Similarity	100.0%; Pred. No. 2e-06; 0;	
Matches	15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
QY	1 HANFCLGPCPYIWSL 15	
Db	7 HANFCLGPCPYIWSL 21	
RESULT 4		
ID	AY92954	
XX	AY92954 standard; peptide; 23 AA.	
AC	AY92954;	
XX		
DT	08-NOV-2000 (first entry)	
XX		
DE	Transforming growth factor inhibitory peptide #10.	
XX		
KW	Hepatotropic; antagonist; transforming growth factor betal; TGF-bl; liver; competitive inhibition; collagen synthesis stimulation inhibitor; liver; extracellular matrix degradation inhibitor; mimotope; cirrhosis.	
XX		
RESULT 3		
XX		
QY	1 HANFCLGPCPYIWSL 15	
Db	1 HANFCLGPCPYIWSL 15	

OS Homo sapiens.  
 XX  
 PN WO20031135-A1.  
 XX  
 PD 02-JUN-2000.  
 XX  
 PP 23-NOV-1999; 99WO-ES000375.  
 XX  
 PR 24-NOV-1998; 98ES-0002465.  
 XX  
 PA (CIBN-) INST CIENTIFICO & TECNOLOGICO NAVARRA.  
 XX  
 PI Ezquerro Saenz IJ, Lasarte Sagastibelza JJ, Prieto Valtuena J;  
 PI Borras Chesta F;  
 XX  
 DR WPI; 2000-411935/35.  
 XX  
 PT Peptides that antagonize binding of transforming growth factor beta1, useful for treatment of liver disease, especially cirrhosis, are partial sequences of the factor or its receptor.  
 PT  
 XX  
 PS Claim 11; Page 82; 86pp; Spanish.  
 XX  
 CC The invention relates to synthetic peptides that antagonise the binding vivo which have partial amino acid sequences identical, or similar, with those of TGF-  
 CC beta1 and/or its receptors. Peptides AAY9245-Y3133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-  
 CC beta1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimetics and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis  
 XX  
 SQ Sequence 23 AA:  
 Query Match 100.0%; Score 96; DB 3; Length 23;  
 Best Local Similarity 100.0%; Pred. No. 2.9e-06;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 CC  
 QY 1 HANFCIGPCPYIWSL 15  
 DB 7 HANFCIGPCPYIWSL 21  
 RESULT 5  
 ARB90828  
 ID ARB90828 standard; peptide; 50 AA.  
 XX  
 AC ARB90828;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 25-JAN-1980 (first entry)  
 DE Sequence of genomic fragment encoding a TGF-beta 1 exon.  
 KW Transforming growth factor beta-3 (TGF beta 3); tumour cells; growth inhibition.  
 KW  
 OS Homo sapiens.  
 XX  
 PN WO8912101-A.  
 XX  
 PD 14-DEC-1989.  
 XX  
 PR 08-JUN-1988; 88WO-US001945.  
 XX  
 PR 08-JUN-1988; 88WO-US001945.  
 PA (GETH ) GENENTECH INC.  
 XX  
 PI Dernick RMA, Goeddel DV;  
 XX  
 DR WPI; 1990-00747401.  
 DR P-PSDB; AR04075.  
 XX  
 PT Nucleotide sequence encoding transforming growth factor beta-3 - used as a probe, or to produce tgf beta-3, for growth inhibition of certain normal and neoplastic cells, e.g. A549.  
 PS Disclosure; Fig 2; 61pp; English.  
 XX  
 CC This sequence encodes an exon of transforming growth factor-beta 1 (TGF-  
 CC beta 1) polypeptide corresponding to AA's 288-338 of mature TGF-beta 1.

XX  
 X  
 XX  
 PI Goeddel DV, Deryck RMA;  
 XX  
 DR WPI; 1996-076891/08.  
 DR N-PSDB; AAT15721.  
 XX  
 PT New recombinant human transforming growth factor-beta prods. - produced using Chinese hamster ovary cells, for use in diagnostic applications or in therapy.  
 XX  
 PS Example 2; Fig 2; 26pp; English.  
 XX  
 CC The transforming growth factor (TGF) beta 1 exon (residues 252 to 302) was identified using the "long probe" strategy used previously for TGF-alpha. Long oligonucleotides (r1572-23) designed on the basis of the partial protein sequence were used as hybridisation probes for the exon in a human genomic DNA library. The TGF beta 1 exon was then used as a probe for the isolation of TGF beta 1 cDNA (see AAT1570). DNA encoding TGF beta 1 is useful for the recombinant production of the protein, which is useful in, e.g. wound healing. (Updated on 25-MAR-2003 to correct PF field.)  
 XX  
 SQ Sequence 50 AA:  
 Query Match 100.0%; Score 96; DB 2; Length 50;  
 Best Local Similarity 100.0%; Pred. No. 5.7e-05;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 CC  
 QY 1 HANFCIGPCPYIWSL 15  
 DB 31 HANFCIGPCPYIWSL 45  
 RESULT 6  
 AR04075  
 ID AR04075 standard; protein; 51 AA.  
 XX  
 AC AR04075;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 31-OCT-2002 (revised)  
 DT 31-MAY-1989 (first entry)  
 XX  
 DE Sequence of genomic fragment encoding a TGF-beta 1 exon.  
 KW Transforming growth factor beta-3 (TGF beta 3); tumour cells; growth inhibition.  
 KW  
 OS Homo sapiens.  
 XX  
 PN WO8912101-A.  
 XX  
 PD 14-DEC-1989.  
 XX  
 PR 08-JUN-1988; 88WO-US001945.  
 XX  
 PR 08-JUN-1988; 88WO-US001945.  
 PA (GETH ) GENENTECH INC.  
 XX  
 PI Dernick RMA, Goeddel DV;  
 XX  
 DR WPI; 1990-00747401.  
 DR P-PSDB; AR04075.  
 XX  
 PT Nucleotide sequence encoding transforming growth factor beta-3 - used as a probe, or to produce tgf beta-3, for growth inhibition of certain normal and neoplastic cells, e.g. A549.  
 PS Disclosure; Fig 2; 61pp; English.  
 XX  
 CC This sequence encodes an exon of transforming growth factor-beta 1 (TGF-

CC The nucleic acid sequence encoding the second subtype of TGF-beta (TGF-  
 CC beta 3) is useful as a probe or to produce TGF-beta 3 for both normal and  
 CC neoplastic cell growth inhibition. (Updated on 31-OCT-2002 to add missing  
 CC OS field.) (Updated on 25-MAR-2003 to correct PR field.) (Updated on 25-  
 CC MAR-2003 to correct PR field.)  
 XX SQ Sequence 51 AA;

Query Match	100.0%	Score	96	DB	2	Length	51
Best Local Similarity	100.0%	Pred. No.	5.8e-06				
Matches	15	Mismatches	0	Indels	0	Gaps	0

Qy 1 HANFCLGPCPYIWSL 15  
 Db 31 HANFCLGPCPYIWSL 45

RESULT 7  
 AAW78788  
 ID AAW78788 standard; protein; 51 AA.  
 XX  
 AC AAW78788;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 21-DEC-1998 (first entry)  
 DB Human transforming growth factor-beta fragment (aa288-338).  
 XX Transforming growth factor-beta 1; TGF-beta 1; human.  
 KW Homo sapiens.  
 OS Homo sapiens.  
 XX US5801231-A.  
 XX PD 01-SEP-1998.  
 XX PF 30-MAY-1995; 95US-00454468.  
 XX PR 22-MAR-1985; 85US-00715142.  
 PR 13-MAR-1987; 87US-00252423.  
 PR 04-AUG-1989; 89US-00389929.  
 PR 04-MAR-1992; 92US-00845893.  
 PR 05-NOV-1993; 93US-00147364.  
 PA (GETH ) GENENTECH INC.  
 XX PI Derynick RMA, Goeddel DV;  
 XX WPI; 1998-494940/42.  
 DR N-PSDB; AAV5236.  
 PT DNA encoding transforming growth factor-beta precursor sequence - useful  
 PT for analysis to manipulate production of the protein.  
 PT for analysis to increase yield of recombinant  
 PT production of the protein.  
 XX Example 2; Fig 2; 26pp; English.

SQ This polypeptide comprises amino acid residues 288-338 of human  
 CC transforming growth factor-beta 1 precursor (preTGF-beta 1, see also  
 CC AAW78785). It is encoded by an isolated fragment (See AAV5236) of the  
 CC TGF-beta 1 gene. The invention relates to the recombinant production of  
 CC TGF-beta. Nucleic acids encoding TGF-beta have been isolated and cloned  
 CC into vectors which are replicated in bacteria and expressed in eukaryotic  
 CC cells. TGF-beta recovered from transformed cells is used in known  
 CC therapeutic applications. (Updated on 25-MAR-2003 to correct PF field.)  
 XX Sequence 51 AA;

Query Match	100.0%	Score	96	DB	4	Length	51
Best Local Similarity	100.0%	Pred. No.	5.8e-06				
Matches	15	Mismatches	0	Indels	0	Gaps	0

Qy 1 HANFCLGPCPYIWSL 15  
 Db 31 HANFCLGPCPYIWSL 45

RESULT 8  
 ABB43879  
 ID ABB43879 standard; peptide; 51 AA.  
 XX  
 AC ABB43879;  
 XX  
 DT 04-FEB-2002 (first entry)  
 DE Peptide #11385 encoded by human foetal liver single exon probe.  
 XX Human; foetal liver; gene expression; single exon nucleic acid probe.  
 XX OS Homo sapiens.  
 XX PN WO200152277-A2.  
 XX PD 09-AUG-2001.  
 XX PF 30-JAN-2001; 2001WO-US000669.  
 XX PR 04-FEB-2000; 2000NS-0180312P.  
 PR 26-MAY-2000; 2000NS-020745P.  
 PR 30-JUN-2000; 2000NS-00608408.  
 PR 03-AUG-2000; 2000NS-0032366.  
 PR 21-SEP-2000; 2000NS-0234687P.  
 PR 27-SEP-2000; 2000NS-0236359P.  
 PR 04-OCT-2000; 2000GB-00024263.  
 XX PA (MOLE-) MOLECULAR DYNAMICS INC.  
 XX PI Penn SG, Hanzel DK, Chen W, Rank DR;  
 XX DR WPI; 2001-48344752.  
 XX PT Human genome-derived single exon nucleic acid probes useful for analyzing  
 PT gene expression in human fetal liver.  
 XX PR Claim 27; SEQ ID NO 36514; 639PP + Sequence Listing; English.  
 XX The invention relates to a single exon nucleic acid probe for measuring  
 CC human gene expression in a sample derived from human foetal liver. The  
 CC single exon nucleic acid probes may be used for predicting, measuring and  
 CC displaying gene expression in samples derived from human fetal liver. The  
 present sequence is a peptide encoded by a single exon nucleic acid probe  
 CC part of the invention. Note: The sequence data for this patent did not form  
 CC part of the printed specification, but was obtained in electronic format  
 CC directly from WIPO at [ftp://ftp.wipo.int/pub/published\\_pct\\_sequences](ftp://ftp.wipo.int/pub/published_pct_sequences)  
 XX Sequence 51 AA;

Query Match	100.0%	Score	96	DB	4	Length	51
Best Local Similarity	100.0%	Pred. No.	5.8e-06				
Matches	15	Mismatches	0	Indels	0	Gaps	0

Qy 1 HANFCLGPCPYIWSL 15  
 Db 31 HANFCLGPCPYIWSL 45

RESULT 9  
 AAM3799  
 ID AAM3799 standard; protein; 51 AA.  
 XX AC AAM3799;  
 XX DT 17-OCT-2001 (first entry)  
 XX DE Peptide #11836 encoded by probe for measuring placental gene expression.  
 Qy 1 HANFCLGPCPYIWSL 15



DR WPI; 2002-114183/15.  
 PD XX  
 PT Spatially-addressable set of single exon nucleic acid probes, used to  
 measure gene expression in human lung samples.  
 XX  
 PS Claim 27; SEQ ID NO 36305; 634pp; English.

XX The invention relates to a spatially-addressable set of single exon  
 nucleic acid probes for measuring gene expression in a sample derived  
 from human lung comprising single exon nucleic acid probes having one of  
 12614 nucleic acid sequences mentioned in the specification, or their  
 complements or the 12387 open reading frames derived from the 12614  
 probes. Also included are a microarray comprising the novel set of probes  
 ; the novel set of probes which hybridise at high stringency to a nucleic  
 acid expressed in the human lung; measuring gene expression in a sample  
 derived from human lung comprising (a) contacting the array with a  
 collection of detectably labeled nucleic acids derived from human lung  
 mRNA, and (b) measuring the label detectably bound to each probe of the  
 array; identifying exons in a eukaryotic genome, comprising (a)  
 algorithmically predicting at least one exon from genomic sequences of  
 the eukaryote; and (b) detecting specific hybridisation of detectably  
 labeled nucleic acids from eukaryote lung mRNA, to a single exon probe,  
 having a fragment identical to the predicted exon, the probe is included  
 in the above mentioned microarray; assigning exons to a single gene,  
 comprising (a) identifying exons from genomic sequence by the method  
 above and (b) measuring the expression of each of the exons in several  
 microarrays having a probe with the exon, where a common pattern of  
 expression of the exons in the tissues and/or cell types indicates that  
 the exons should be assigned to a single gene; a peptide comprising one  
 of 12011 sequences, mentioned in the specification, or encoded by the  
 probe/open reading frames (ORF). The probes are used for gene expression  
 analysis, and for identifying exons in a gene, particularly using human  
 lung derived mRNA and for the study of lung diseases such as asthma, lung  
 cancer, chronic obstructive pulmonary disease (COPD), interstitial lung  
 disease (ILD), familial idiopathic pulmonary fibrosis, neurofibromatosis,  
 tuberous sclerosis, Gaucher's disease, Niemann-Pick disease, Hermansky-  
 Putik syndrome, sarcoidosis, pulmonary haemosiderosis, pulmonary  
 histiocytosis, lymphangiomyomatosis, pulmonary alveolar proteinosis,  
 Kartagener syndrome, fibrocytic pulmonary dysplasia, primary ciliary  
 dyskinesia, pulmonary hypertension and hyaline membrane disease. The  
 present sequence is a peptide/protein encoded by a single exon probe of  
 the invention. Note: The sequence data for this patent did not form part  
 of the printed specification, but was obtained in electronic format  
 directly from WIPO at [ftp://wipo.int/pub/published\\_pct\\_sequences](ftp://wipo.int/pub/published_pct_sequences)

SQ Sequence 51 AA;  
 Query Match 100.0%; Score 96; DB 5; Length 51;  
 Best Local Similarity 100.0%; Pred. No. 6.7e-05; Length 60;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 ID AAW30331  
 ID AAW30331 standard; peptide; 62 AA.  
 AC AAW30331:  
 AC 40 HANFCIGPCPYIWSL 54  
 DT 11-FEB-1998 (first entry)  
 DE Fragment of growth factor TGFbeta1.  
 XX  
 KW Neurturin; human; haematopoietic cell; neuronal cell; stem cell; NT gene;  
 KW neurodegenerative disease; peripheral neuropathy; nervous system tumour;  
 KW amytrophic lateral sclerosis; Alzheimer's disease; Parkinson's disease;  
 KW Huntingdon's disease; ischaemic stroke; acute brain injury; basopenia;  
 KW acute spinal cord injury; multiple sclerosis; eosinopenia; lymphopenia;  
 KW monocyteopenia; neutropenia; anaemia; thrombocytopenia; neuroblastoma;  
 KW antibody; obesity; therapy; transforming growth factor beta; TGFbeta1;  
 KW growth factor; hybrid protein.  
 OS Homo sapiens.  
 XX  
 PN WO9708198-A1.  
 XX  
 PD 06-MAR-1997.  
 XX  
 PP 27-AUG-1996; 96WO-US014065.  
 XX  
 PR 28-AUG-1995; 95US-00519777.  
 XX  
 (UNIW ) UNIV WASHINGTON.  
 PA  
 PI Johnson EM, Milbrandt JD, Kotzbauer PT, Lampe PA;  
 XX  
 DR WPI; 1997-179176/16.  
 XX  
 PN WO200109156-A1.

RESULT 13  
 AAB68685 standard; protein; 60 AA.  
 XX  
 AC AAB68685;  
 XX  
 DT 03-MAY-2001 (first entry)  
 XX  
 DE Human TGFbeta protein #1.  
 XX  
 KW Human; transforming growth factor beta2; TGFbeta2; SELEX;  
 KW systemic evolution of ligands by exponential enrichment.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO200109156-A1.

XX 08-FEB-2001.  
 PD XX  
 PT 26-JUL-2000; 2000WO-US020397.  
 XX  
 PR 29-JUL-1999; 99US-00363939.  
 XX (NEXS-) NEXSTAR PHARM INC.  
 PA  
 PI Pagratis N, Lochrie M, Gold L;  
 XX  
 DR WPI; 2001-210217/22.  
 XX New RNA ligand to human transforming growth factor beta2, useful as  
 PT pharmaceuticals, diagnostics and as immunohistochemical reagents.  
 XX Disclosure; Page 71; 178pp; English.  
 XX  
 CC The present invention relates to non-naturally occurring, high-affinity  
 RNA ligands to human transforming growth factor beta2 (TGFbeta2). The  
 CC oligonucleotide ligands were identified by the SELEX method (SELEX stands  
 CC for Systematic Evolution of Ligands by Exponential Enrichment). The  
 CC oligonucleotide ligands are useful in any process in which binding to  
 CC TGFbeta2 is required. The ligands may be useful as pharmaceuticals,  
 CC diagnostics, imaging agents and immunohistochemical reagents.  
 XX SQ Sequence 60 AA;  
 Query Match 100.0%; Score 96; DB 4; Length 60;  
 Best Local Similarity 100.0%; Pred. No. 6.7e-05; Length 60;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 ID AAW30331  
 ID AAW30331 standard; peptide; 62 AA.  
 AC AAW30331:  
 AC 40 HANFCIGPCPYIWSL 54  
 DT 11-FEB-1998 (first entry)  
 DE Fragment of growth factor TGFbeta1.  
 XX  
 KW Neurturin; human; haematopoietic cell; neuronal cell; stem cell; NT gene;  
 KW neurodegenerative disease; peripheral neuropathy; nervous system tumour;  
 KW amytrophic lateral sclerosis; Alzheimer's disease; Parkinson's disease;  
 KW Huntingdon's disease; ischaemic stroke; acute brain injury; basopenia;  
 KW acute spinal cord injury; multiple sclerosis; eosinopenia; lymphopenia;  
 KW monocyteopenia; neutropenia; anaemia; thrombocytopenia; neuroblastoma;  
 KW antibody; obesity; therapy; transforming growth factor beta; TGFbeta1;  
 KW growth factor; hybrid protein.  
 OS Homo sapiens.  
 XX  
 PN WO9708198-A1.  
 XX  
 PD 06-MAR-1997.  
 XX  
 PP 27-AUG-1996; 96WO-US014065.  
 XX  
 PR 28-AUG-1995; 95US-00519777.  
 XX  
 (UNIW ) UNIV WASHINGTON.  
 PA  
 PI Johnson EM, Milbrandt JD, Kotzbauer PT, Lampe PA;  
 XX  
 DR WPI; 1997-179176/16.  
 XX  
 PN A novel growth factor Neurturin - used to treat neuro-degenerative and

PT haematopoietic cell degeneration diseases, e.g. Alzheimer's disease and  
 PT eosinopenia.  
 XX Claim 93; Fig 17; 206pp; English.  
 PS AAW3031-W3033 represent human growth factor fragments that are used in  
 XX a hybrid polypeptide of the invention. These sequences form a hybrid with  
 CC the human neuturin (NT) fragment shown in AAW3078. NT promotes the  
 CC growth and differentiation of haematopoietic and neuronal cells, and  
 CC their stem cells. The NT gene and protein are used to prevent or treat  
 CC neurodegenerative diseases e.g. peripheral neuropathy, amyotrophic  
 CC lateral sclerosis, Alzheimer's disease, Parkinson's disease, Huntington's  
 CC disease, ischaemic stroke, acute brain injury, acute spinal cord injury,  
 CC nervous system tumours, multiple sclerosis and infection; and  
 CC haematopoietic cell degenerative diseases, e.g. eosinopenia, basopenia,  
 CC lymphopenia, monocytopenia, neutropenia, anaemia, thrombocytopenia  
 CC and stem cell insufficiencies. The NT protein and oligonucleotides (used as  
 CC either probes or primers, corresponding to an exon of pre-pro-NT gene or  
 CC flanking a target sequence) can be used for detecting NT in a sample or  
 CC detecting mutations in the NT gene. Antisense sequences e.g. obesity  
 CC are used to treat diseases promoted by NT expression e.g. obesity  
 XX Sequence 62 AA:  
 SQ

Query Match	Best Local Similarity	Score	DB	Length
Matches 15;	Conservative 0;	96;	2;	62;
	Mismatches 0;	100.0%;	Pred. No.	6.9e-06;
	Indels 0;			
	Gaps 0;			

OY 1 HANFCILGPCPYIWSL 15  
 Db 26 HANFCILGPCPYIWSL 40

RESULT 14  
 AR22135  
 ID AR22135 standard; peptide; 65 AA.  
 AC AAR22135;  
 XX  
 AC AAR22135;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 10-JUL-1992 (first entry)  
 XX PDGI subunit b.  
 XX Platelet derived growth inhibitor alpha; TGF-beta; trypsin; pepsin;  
 KW cell proliferation; eczema; immunosuppressant.  
 XX Homo sapiens.  
 OS  
 XX EP475719-A.  
 XX  
 XX PD 18-MAR-1992.  
 PR 10-SEP-1991; 91EP-00308239.  
 XX PR 11-SEP-1990; 90JP-00238944.  
 XX PA (NAKA/) NAKAMURA T.  
 PT Nakamura T., Nakamura T;  
 XX DR WPI; 1992-090304/12.  
 XX  
 PT New platelet-derived growth regulating peptide-alpha - used for treatment  
 PT of eczema, stimulation of bone growth and as immunosuppressant.  
 XX Claim 2; Page 11; 21pp; English.  
 PS

The peptide is subunit b of PDGI alpha. It can be obt. by treating  
 CC transforming growth factor (TGF) beta with chymotrypsin or pepsin, or can  
 CC be isolated from human blood platelets or by recombinant expression of  
 CC DNA obt. using RNA extd. from blood plasma. PDGI alpha is comprised of

CC subunits a, b and c bonded b-a-c. PDGI alpha can be used for controlling  
 CC cell proliferation without the cancerous activity (transformation  
 CC activity) associated with TGF-beta. Pepti-alpha can be used for  
 CC activation and acceleration of the proliferation of epithelium cells in  
 CC treating eczema, for stimulating osseous growth for bone formation or as  
 CC an immuno-suppressant for immune diseases. See also AAR22134-6. (Updated  
 XX on 25-MAR-2003 to correct PPF field.)  
 SQ Sequence 65 AA:  
 SQ

Query Match	Best Local Similarity	Score	DB	Length
Matches 15;	Conservative 0;	96;	2;	65;
	Mismatches 0;	100.0%;	Pred. No.	7.2e-06;
	Indels 0;			
	Gaps 0;			

OY 1 HANFCILGPCPYIWSL 15  
 Db 40 HANFCILGPCPYIWSL 54

RESULT 15  
 AR22135  
 ID AAY16697 standard; peptide; 98 AA.  
 AC AAY16697;  
 XX  
 DT 17-AUG-1999 (first entry)  
 XX DE WO9914235 Seq ID No: 150.  
 XX Growth factor; GF; persephin; neuron growth; cellular degeneration;  
 KW peripheral neuropathy; amyotrophic lateral sclerosis; ischemic stroke;  
 KW Alzheimer's disease; Parkinson's disease; Huntington's disease; trauma;  
 KW brain injury; spinal cord injury; nervous system tumour; infection;  
 KW multiple sclerosis; cardiac muscle degeneration; injury; neurotoxin;  
 KW metabolic disease; diabetes; renal dysfunction; neuturin.  
 XX GS Unidentified.  
 XX PN WO9914235-A1.  
 XX PD 25-MAR-1999.  
 XX PR 15-SBP-1998; 98WO-US019163.  
 XX PR 16-SBP-1997; 97US-00931858.  
 XX PA (UNIW ) UNIV WASHINGTON.  
 PT Johnson EM, Milbrandt JD, Kotzbauer PT, Lampe PA, Klein R;  
 PT Desauvage F;  
 XX DR WPI; 1999-244023/20.  
 XX PT New isolated persephin growth factor nucleic acids used to, e.g. promote  
 PT neuronal growth.  
 XX Disclosure; Page 175-176; 222pp; English.  
 XX  
 CC The invention relates to a novel isolated and purified growth factor (GF)  
 CC that comprises persephin or a fragment or a conservatively substituted  
 CC variant. The persephin GF polypeptides can promote the survival and  
 CC growth of neurons and non-neuronal cells. The persephin GF polypeptides  
 CC or polynucleotides can be used for preventing or treating cellular  
 CC degeneration or insufficiency, e.g. neuronal degeneration resulting from  
 CC peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's  
 CC disease, Parkinson's disease, Huntington's disease, ischemic stroke,  
 CC acute brain injury, acute spinal cord injury, nervous system tumours,  
 CC multiple sclerosis, or infection, hematopoietic cell degeneration or  
 CC insufficiency resulting from eosinopenia, anaemias, thrombocytopenia, or  
 CC stem-cell insufficiencies, cardiac muscle degeneration or insufficiency  
 CC resulting from cardiomyopathy or congestive heart failure. They can also  
 CC be used for treating e.g. peripheral nerve trauma or injury, exposure to  
 CC neurotoxins, metabolic diseases such as diabetes or renal dysfunctions

CC and damage caused by infectious agents. The GF can also be used for promoting the growth and/or differentiation of a cell in a culture medium. The antisense polyuridylates can be used for treating a disease condition mediated by expression of *Persephin* by a population of cells. The products can also be used for detection and diagnosis.

Query Match Similarity Score DB Length  
Post term 100.0% 96 2 98;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Search completed: June 14, 2005, 15:46:23  
Job time : 88.9615 secs

Job time : 88.9615 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model  
Run on: June 14, 2005, 15:34:23 ; Search time 80.1923 Seconds  
(without alignments)  
95.785 Million cell updates/sec

Title: US-09-831-253F-1

Perfect score: 96

Sequence: 1 HANFCILGCPYIWSL 15

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched:

1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Maximum Match 0%

Listing first 45 summaries

Database : UniProt 03:  
1: uniprot\_sprot:  
2: uniprot\_trembl:  
\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match Length	DB ID	Description
1	96	100.0	50	Q28240 cervus elap
2	96	100.0	51	Q28240; homo sapien
3	96	100.0	78	Q72487 homo sapien
4	96	100.0	101	Q70316 sus scrofa
5	96	100.0	112	Q9R184 marionae un
6	96	100.0	124	Q02730 oryctolagus cuniculus
7	96	100.0	130	Q08714 canis familiaris
8	96	100.0	315	Q18341 equus caballus
9	96	100.0	368	Q8R4D9 simodons hi
10	96	100.0	390	Q2P1_CANFA canis familiaris
11	96	100.0	390	Q2P1_CAVPO canis familiaris
12	96	100.0	390	Q2P1_CERBEE cercopithecus aethiops
13	96	100.0	390	Q2P1_HORSE equus caballus
14	96	100.0	390	Q2P1_HUMAN homo sapiens
15	96	100.0	390	Q2P1_MOUSE mus musculus
16	96	100.0	390	Q2P1_PIG sus scrofa
17	96	100.0	390	Q2P1_RAT rattus norvegicus
18	96	100.0	390	Q2P1_SHEEP ovis aries
19	96	100.0	390	Q2P1_TUMB equus caballus
20	82	85.4	373	Q2P1_CHICK gallus gallus
21	80	82.0	412	Q2P1_BOVIN bovis taurinus
22	74	77.1	382	Q2P1_XENLA xenopus laevis
23	70	72.9	77	Q90YF8 oncorhynchus keta
24	70	72.9	86	Q2P14 ovis aries
25	70	72.9	88	Q2P1_YF7 oncorhynchus gorbuscha
26	70	72.9	91	Q9M21 capra hircus
27	70	72.9	112	Q2P1214 bos taurus
28	70	72.9	224	Q8CDZ9 mus musculus
29	70	72.9	255	Q92IT1 mus musculus
30	70	72.9	361	Q98854 cyprinus carpio
31	70	72.9	399	Q9erb7 mesocricetus auratus

Alignments

RESULT 1  
Q28240 PRELIMINARY; PRT; 50 AA.  
ID Q28240; 01-Nov-1996 (TRIMBurrel. 01, Last sequence update)  
AC Q28240;  
DT 01-Nov-1996 (TRIMBurrel. 01, Last annotation update)  
DT 01-Nov-2004 (TRIMBurrel. 26, Last annotation update)  
DE Transforming growth factor beta 1 (TGF-beta 1) (Transforming growth factor B1) (Fragment).  
Name=TGFBB1; Synonyms=TGF beta-1, TGF-B1;  
OS Cervus elaphus (Red deer)  
OC Bovidae; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae;  
OC Cervus; Cervinae; Cervini;  
OX NCBI\_TaxID=9860;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Antler;  
RX MEDLINE=98233360; PubMed=9571767;  
RX DOI=10.1002/(SICI)1097-010X(19980501)281:1<36::AID-JB26>3.0.CO;2-D;  
RA Francis S.M., Sutie J.M.;  
RT "Detection of growth factors and proto-oncogene mRNA in the growing tip of red deer (Cervus elaphus) antler using reverse-transcriptase polymerase chain reaction (RT-PCR).";  
RT J. Exp. Zool. 281:36-42(1998).  
RN [2]  
RP SEQUENCE FROM N.A.  
RC TISSUE=Testis;  
RA Wagener A., Blottnner S., Pickel J.;  
RT "Detection of growth factors in the testes of roe deer (Capreolus capreolus).";  
RT Submitted (MAY-1999) to the EMBL/GenBank/DBJ databases.  
CC -!- FUNCTION: TGF-BETA 1 IS A MULTIFUNCTIONAL PEPTIDE THAT CONTROLS PROLIFERATION, DIFFERENTIATION, AND OTHER FUNCTIONS IN MANY CELLS TYPES. MANY CELLS SYNTHESIZE TGF-BETA 1 AND ESSENTIALLY ALL OF THEM HAVE SPECIFIC RECEPTORS FOR THIS PEPTIDE. TGF-BETA 1 REGULATES THE ACTIONS OF MANY OTHER PEPTIDE GROWTH FACTORS AND DETERMINES A POSITIVE OR NEGATIVE DIRECTION OF THEIR EFFECTS.  
CC -!- SUBUNIT: Homodimer; disulfide-linked (By similarity).  
CC -!- SIMILARITY: Belongs to the TGF-beta family.  
EMBL: U62110; AAB02561; -.  
DR EMBL; AF152591; AACF73230.1; -.  
DR HSSP; P01137; IKA.  
DR -!  
DR GO; GO:0008083; P:cell proliferation; IEA.  
DR GO; GO:0008283; P:cell proliferation; IEA.  
DR GO; GO:000074; P:regulation of cell cycle; IEA.  
DR InterPro: IPR01839; TGBB.  
DR Pfam: PF00019; TGF beta-1.  
DR HSSP; P01137; IKA.  
DR -!  
DR GO; GO:0008083; P:cell proliferation; IEA.  
DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
DR Glycoprotein; Growth Factor; Mitogen.  
FT NON\_TER 1  
CHAIN <1 >50 TRANSFORMING GROWTH FACTOR BETA 1.



**Db** 34 HANFCIGPCPYIWSL 48  
**ID** 002730 PRELIMINARY; PRT; 112 AA.  
**AC** 002730; 097501;  
**DT** 01-JUL-1997 (TREMBIrel. 04, Created)  
**DT** 01-MAR-2004 (TREMBIrel. 26, Last sequence update)  
**DB** Transforming growth factor beta\_1 (TGF-beta 1) (Fragment).  
**GN** Name=TGB1; Synonyms=TGF-beta-1;  
**OS** Oryctolagus cuniculus (Rabbit);  
**OC** Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
**OC** Mammalia; Butheria; Lagomorpha; Leporidae; Oryctolagus.  
**OX** NCBI\_TaxID=9986;  
**RN** [1] SEQUENCE FROM N.A.  
**RA** Taylor T.K., James E.R., McGenigle S., Yoho E.R.;  
**RL** Submitted (APR-1997) to the EMBL/GenBank/DDJB databases.  
**RN** [2] SEQUENCE OF 2-99 FROM N.A.  
**RA** Inoue K., Kawabe Y., Kodama T.;  
**RA** Submitted (NOV-1998) to the EMBL/GenBank/DDJB databases.  
**-!- FUNCTION:** TGF-BETA 1 IS A MULTIFUNCTIONAL PEPTIDE THAT CONTROLS PROLIFERATION, DIFFERENTIATION, AND OTHER FUNCTIONS IN MANY CELL TYPES. MANY CELLS SYNTHESIZE TGF-BETA 1 AND ESSENTIALLY ALL OF THEM HAVE SPECIFIC RECEPTORS FOR THIS PEPTIDE. TGF-BETA 1 REGULATES THE ACTIONS OF MANY OTHER PEPTIDE GROWTH FACTORS AND DETERMINES A POSITIVE OR NEGATIVE DIRECTION OF THEIR EFFECTS.  
**CC** -!- SUBUNIT: Homodimer; disulfide-linked (BY similarity).  
**CC** -!- SIMILARITY: Belongs to the TGF-beta family.  
**DR** EMBL; AR0020217; ARB36950.1; -.  
**DR** HSSP; P01137; IKL1.  
**DR** GO; GO:000803; F-growth factor activity; IEA.  
**DR** GO; GO:0008283; P-cell proliferation; IBA.  
**DR** GO; GO:000074; P-regulation of cell cycle; IEA.  
**DR** InterPro; IPR02400; GF\_Cysknot.  
**DR** InterPro; IPR01839; TGFb.  
**DR** Pfam; PF0019; TGF\_beta\_1.  
**DR** PRINTS; PR00438; GTCYSKNOT.  
**DR** Prodom; PDD000357; TGFb; 1.  
**DR** SMART; SM00204; TGFb; 1.  
**DR** PROSITE; PS00250; TGF\_BETA\_1; 1.  
**KW** Glycoprotein; Growth Factor; Mitogen.  
**FT** NON\_TER 1 1  
**FT** CHAIN 1 112 TRANSFORMING GROWTH FACTOR BETA 1.  
**FT** DISUFLID 7 16 BY SIMILARITY.  
**FT** DISUFLID 15 78 BY SIMILARITY.  
**FT** DISUFLID 44 109 BY SIMILARITY.  
**FT** DISUFLID 48 111 BY SIMILARITY.  
**FT** DISUFLID 77 177 INTERCHAIN (BY SIMILARITY).  
**FT** CONFLICT 2 3 ID -> FS (IN REF. 21).  
**FT** CONFLICT 85 92 PLPITVVV -> ATAHVVTV (IN REF. 2).  
**SQ** SEQUENCE 112 AA; 12795 MW; 53C5BTdA6355A6F3 CRC64;

**Query Match** 1 HANFCIGPCPYIWSL 15  
**Score** 96; **DB** 2; **Length** 112;  
**Best Local Similarity** 100.0%; **Pred** No. 4.7e-07; **Indels** 0; **Gaps** 0;  
**Mismatches** 15; **Conservative** 0; **Matches** 15; **Similarity** 100.0%; **Pred.** No. 5.1e-07; **Indels** 0; **Gaps** 0; **Mismatches** 0; **Matches** 15; **Conservative** 0; **Similarity** 100.0%; **Pred.** No. 5.1e-07; **Indels** 0; **Gaps** 0;

**RESULT 5**  
**ID** 002730 PRELIMINARY; PRT; 112 AA.  
**AC** 002730; 097501;  
**DT** 01-JUL-1997 (TREMBIrel. 04, Last sequence update)  
**DT** 01-MAR-2004 (TREMBIrel. 26, Last annotation update)  
**DB** Transforming growth factor beta\_1 (TGF-beta 1) (Fragment).  
**GN** Name=TGB1; Synonyms=TGF-beta-1;  
**OS** Oryctolagus cuniculus (Rabbit);  
**OC** Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
**OC** Mammalia; Butheria; Lagomorpha; Leporidae; Oryctolagus.  
**OX** NCBI\_TaxID=9986;  
**RN** [1] SEQUENCE FROM N.A.  
**RA** Fonfara S., Groene A., Baumgaertner W.;  
**RA** Submitted (FEB-2001) to the EMBL/GenBank/DDJB databases.  
**-!- SIMILARITY:** Belongs to the TGF-beta family.  
**DR** EMBL; AF49538; ARK54072.1; -.  
**DR** HSSP; P01137; IKL1.  
**DR** GO; GO:000803; F-growth factor activity; IEA.  
**DR** InterPro; IPR001839; TGFb.  
**DR** Pfam; PF0019; TGF beta; 1.  
**DR** Problem; PD00057; TGFb; 1.  
**DR** SMART; SM00204; TGFb; 1.  
**DR** PROSITE; PS00250; TGF\_BETA\_1; 1.  
**DR** Growth factor.  
**KW** Non\_TER 1 1  
**FT** NON\_TER 124 124  
**SQ** SEQUENCE 124 AA; 14329 MW; 21D185218E5556DB CRC64;

**Query Match** 1 HANFCIGPCPYIWSL 15  
**Score** 96; **DB** 2; **Length** 124;  
**Best Local Similarity** 100.0%; **Pred.** No. 5.1e-07; **Indels** 0; **Gaps** 0; **Mismatches** 0; **Matches** 15; **Conservative** 0; **Similarity** 100.0%; **Pred.** No. 5.1e-07; **Indels** 0; **Gaps** 0; **Mismatches** 0; **Matches** 15; **Conservative** 0; **Similarity** 100.0%; **Pred.** No. 5.1e-07; **Indels** 0; **Gaps** 0;

**RESULT 6**  
**ID** Q95NB0 PRELIMINARY; PRT; 124 AA.  
**AC** Q95NB0; 01-DRC-2001 (TREMBIrel. 19, Created)  
**DT** 01-DEC-2001 (TREMBIrel. 19, Last sequence update)

**Query Match** 1 HANFCIGPCPYIWSL 15  
**Score** 96; **DB** 2; **Length** 112;  
**Best Local Similarity** 100.0%; **Pred** No. 4.7e-07; **Indels** 0; **Gaps** 0;  
**Mismatches** 15; **Conservative** 0; **Matches** 15; **Similarity** 100.0%; **Pred.** No. 4.7e-07; **Indels** 0; **Gaps** 0;

**Query Match** 1 HANFCIGPCPYIWSL 54  
**Score** 96; **DB** 2; **Length** 112;  
**Best Local Similarity** 100.0%; **Pred** No. 4.7e-07; **Indels** 0; **Gaps** 0;  
**Mismatches** 15; **Conservative** 0; **Matches** 15; **Similarity** 100.0%; **Pred.** No. 4.7e-07; **Indels** 0; **Gaps** 0;

**RESULT 7**  
**ID** Q08714 PRELIMINARY; PRT; 130 AA.  
**AC** Q08714; 070331;  
**DT** 01-NOV-1996 (TREMBIrel. 01, Created)  
**DT** 01-NOV-1996 (TREMBIrel. 01, Last sequence update)  
**DT** 01-MAR-2004 (TREMBIrel. 26, Last annotation update)  
**DB** Transforming growth factor beta 1 (TGF-beta 1) (Fragment).  
**GN** Name=TGB1; Synonyms=TGF-beta-1;  
**OS** Mesocricetus auratus (Golden hamster).  
**OC** Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
**OC** Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Cricetinae;  
**OC** Mesocricetus.  
**OX** NCBI\_TaxID=10036;  
**RN** [1] SEQUENCE FROM N.A.  
**RP** STRAIN=LVG (STR);  
**RC** MEDLINE:3304479; PubMed=8317544;  
**RA** Wong D.T., Donoff R.B., Yang J., Song B.Z., Matossian K., Nagura N., Elovin A., McBride J., Gallacher G., Todd R.;  
**RA** "Segmental expression of transforming growth factors alpha and beta 1 by eosinophils during cutaneous wound healing in the hamster.";  
**RA** Am. J. Pathol. 143:130-142(1993).  
**RN** [2] SEQUENCE OF 26-115 FROM N.A.  
**RP** STRAIN=STRIAN; TISSUE=SPLLEN;  
**RC** MEDLINE:9823444; PubMed=9573100;  
**RA** Melby P.C., Tyson V.V., Chandrasekar B., Freeman G.L.;  
**RA** "Cloning of Syrian hamster (Mesocricetus auratus) cytokine cDNAs and RT analysis of cytokine mRNA expression in experimental visceral leishmaniasis";  
**RA** Infect. Immun. 66:2135-2142(1998).  
**RC** Infec. Immun. 66:2135-2142(1998).  
**CC** -!- FUNCTION: TGF-BETA 1 IS A MULTIFUNCTIONAL PEPTIDE THAT CONTROLS PROLIFERATION, DIFFERENTIATION, AND OTHER FUNCTIONS IN MANY CELL TYPES. MANY CELLS SYNTHESIZE TGF-BETA 1 AND ESSENTIALLY ALL OF THEM HAVE SPECIFIC RECEPTORS FOR THIS PEPTIDE. TGF-BETA 1 REGULATES THE ACTIONS OF MANY OTHER PEPTIDE GROWTH FACTORS AND DETERMINES A POSITIVE OR NEGATIVE DIRECTION OF THEIR EFFECTS.  
**CC** -!- SIMILARITY: HOMODIMER, DISUFLIDE-LINKED.

DR EMBL; X60296; CAA42838\_1; --.  
 DR EMBL; AF046214; AAC40099\_1; -.  
 DR PIR; I8196; I48196.  
 DR HSPB; P01137; IHLA.  
 DR GO; GO:000803; F-growth factor activity; IEA.  
 DR PRODOM; PD000357; TGF $\beta$ ; 1.  
 DR SMART; SM0204; TGF $\beta$ ; 1.  
 DR PROSITE; PS00250; TGF $\beta$  BETA\_1; 1.  
 KW GLYCOPROTEIN; Growth Factor; Mitogen.  
 FT NON\_TER 1  
 FT PROPEP <1 18 TRANSFORMING GROWTH FACTOR BETA\_1.  
 FT CHAIN 19 130 BY SIMILARITY.  
 FT DISULFID 25 34 INTERCHAIN (BY SIMILARITY).  
 FT DISULFID 33 96 BY SIMILARITY.  
 FT DISULFID 66 129 BY SIMILARITY.  
 FT DISULFID 95 95 G -> S (IN REF. 2).  
 FT CONFLICT 93 93 AA; 14997 MN; 8841DDGCF39CCA77 CRC64;  
 SQ SEQUENCE 130 AA;  
 Query Match 100.0%; Score 96; DB 2; Length 130;  
 Best Local Similarity 100.0%; Pred. No. 5.3e-07;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 HANFCIGPCPYIWSL 15  
 Db 58 HANFCIGPCPYIWSL 72

RESULT 8

TGFB1\_BOVIN STANDARD PRT; 315 AA.

ID P18341; DT 01-NOV-1990 (Rel. 16, Created)  
 DT 01-NOV-1990 (Rel. 16, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)

DE Transforming growth factor beta 1 precursor (TGF-beta 1) (Fragment).

OS Name=IGFB1; (Bovine).  
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovida;  
 OC Bovinae; Bos;  
 OX NCBI\_TaxID=9213;  
 RN [1]  
 RP SUBUNITS.  
 RP TISSUE\_Bone;  
 RX MEDLINE:92129307; PubMed=1733936;  
 RA Ogawa Y., Schmidt D.K., Dasch J.R., Chang R.J., Glaser C.B.;  
 RT "Purification and characterization of transforming growth factor-beta 2, 3 and -beta 1,2 heterodimers from bovine bone.";  
 RL J. Biol. Chem. 267:2325-2328(1992).  
 CC -!- FUNCTION: TGF-beta is a multifunctional peptide that control proliferation, differentiation, and other functions in many cell types. Many cells synthesize TGF-beta and essentially all of them have specific receptors for this peptide. TGF-beta regulates the actions of many other peptide growth factors and determines a positive or negative direction of their effects. Play an important role in bone remodelling. It is a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and differentiation in committed osteoblasts (By similarity).  
 CC -!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-covalently linked to a latency-associated peptide (LAP) homodimer.

CC The inactive complex can contain a latent TGF-beta binding protein (By similarity). The active form is a homodimer of mature TGF-beta 1; disulfide-linked. Heterodimers of TGF-beta 1/2 have been found in bone.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1 and LAP (By similarity).

CC -!- SIMILARITY: Belongs to the TGF-beta family.

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CC -----

DR EMBL; M36271; AAA0778\_1;  
 DR PIR; A4057; A4057.  
 DR HSSP; P01137; IHLA.  
 DR InterPro; IPR002400; GF\_CYSKNOT.  
 DR InterPro; IPR003911; TGF $\beta$  TGF $\beta$ .  
 DR InterPro; IPR01839; TGF $\beta$ .  
 DR PRODOM; PD000357; TGF $\beta$ ; 1.  
 DR SMART; SM0204; TGF $\beta$ ; 1.  
 DR PROSITE; PS00250; TGF $\beta$  BETA\_1; 1.  
 KW GLYCOPROTEIN; Growth Factor; Mitogen.  
 FT NON\_TER 1  
 FT PROPEP <1 203 Transforming growth factor beta 1.  
 FT CHAIN 204 315 BY SIMILARITY.  
 FT DISULFID 210 219 BY SIMILARITY.  
 FT DISULFID 218 281 BY SIMILARITY.  
 FT DISULFID 247 312 BY SIMILARITY.  
 FT DISULFID 251 314 BY SIMILARITY.  
 FT DISULFID 280 280 Interchain (By similarity).  
 FT CARBOHYD 7 7 N-linked (GLCNAC. . .) (By similarity).  
 FT CARBOHYD 61 61 N-linked (GLCNAc. . .) (By similarity).  
 FT CARBOHYD 101 101 N-linked (GlcNAc. . .) (By similarity).  
 FT SITE 169 171 Cell attachment site (Potential).  
 SQ SEQUENCE 315 AA;  
 Query Match 100.0%; Score 96; DB 1; Length 315;  
 Best Local Similarity 100.0%; Pred. No. 1.2e-06;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 HANFCIGPCPYIWSL 15  
 Db 243 HANFCIGPCPYIWSL 257

RESULT 9

Q8R4D9 PRELIMINARY PRT; 368 AA.

ID Q8R4D9  
 AC Q8R4D9; DT 01-JUN-2002 (TREMBLrel. 21, Created)  
 DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)  
 DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)  
 DE Transforming growth factor beta-1 protein (Fragment).  
 OS Name=TGF $\beta$ 1; Sigmodon hispidus (Hispid cotton rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Sigmodontinae; OC Sigmodon.  
 CC NCBI\_TaxID=42415;  
 RN [1]  
 RP SUBUNITS.  
 RN SEQUENCE FROM N.A.  
 RA Blanco J.C., Pletneva L., Boukhvalova M., Richardson J.Y.,  
 RA Published=498081; DOI=10.1089/1079900477219873;

RA Harris K.A.; Prince G.A.;  
 RT "The cotton rat: an underutilized animal model for human infectious  
 diseases can now be exploited using specific reagents to cytokines,  
 RT chemokines, and interferons."  
 RL J. Interferon Cytokine Res. 24:21-28(2004).

CC -!- SIMILARITY: Belongs to the TGF-beta family.

DR EMBL; AF08058; AAL8199.1; --.  
 DR HSSP; P01137; IMLA.  
 DR GO; GO:0008083; FGrowth factor activity; IBA.  
 DR GO; GO:0005160; F:transforming growth factor beta receptor bi. . ; IEA.  
 DR GO; GO:0016049; P:cell growth; IEA.

DR InterPro; IPRO02400; GF\_cysknot.  
 DR InterPro; IPRO01839; TGB.  
 DR InterPro; IPRO03931; TGB1.  
 DR InterPro; IPRO01111; TGBB\_N.  
 DR PFam; PF00688; TGFB\_propeptide; 1.  
 DR PFam; PF0019; TGF beta; 1.  
 DR PRINTS; PR01423; TGBETAA.  
 DR PRINTS; PR01424; TGBETAI.  
 DR PRODOM; PD000357; TGBB; 1.  
 DR SMART; SM00204; TGB; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 KW Growth factor.  
 FT NON\_TER 1 1 41905 MW; A5C91207B0468B4A CRC64;  
 SQ SEQUENCE 368 AA; 41905 MW; A5C91207B0468B4A CRC64;

Query Match 100.0%; Score 96; DB 2; Length 368;  
 Best Local Similarity 100.0%; Pred. No. 1.3e-06; Mismatches 0;  
 Matches 15; Conservative 0; Indels 0; Gaps 0;

QY 1 HANFCIGPCPYIWSL 15  
 AC P54831;  
 ID HANFCIGPCPYIWSL 310  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 05-JUL-2004 (Rel. 44, Last sequence update)  
 DB Transforming growth factor beta 1 precursor (TGF-beta 1).  
 GN Name=TGBB1  
 OS Canis familiaris (Dog).

OC Bovaria; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 OX NCBI\_TaxID=9615;  
 RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=tugular vein endothelial;  
 RA MEDLINE-95237630; PubMed=772110; DOI=10.1016/0378-1119(94)00903-6;  
 RT Manning A.M.; Auchampach J.A.; Drong R.F.; Slightom J.L.;  
 RT "Cloning of a canine cDNA homologous to the human transforming growth  
 factor-beta 1-encoding gene."  
 RL Gene 15:307-308(1995).

CC -!- FUNCTION: TGF-beta is a multifunctional peptide that control  
 proliferation, differentiation, and other functions in many cell  
 types. Many cells synthesize TGF-beta and essentially all of them  
 have specific receptors for this peptide. TGF-beta regulates the  
 actions of many other peptide growth factors and determines a  
 positive or negative direction of their effects. Play an important  
 role in bone remodelling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and  
 differentiation in committed osteoblasts (By similarity).  
 CC SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 CC The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1;  
 CC disulfide-linked (By similarity).

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP (By similarity).  
 CC -!- SIMILARITY: Belongs to the TGF-beta family.

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 or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

CC DR EMBL; L34956; AAAS1458.1; --.  
 DR PIR; JC4023; ICA023.  
 DR HSSP; P01137; IMLA.  
 DR InterPro; IPRO02400; GF\_cysknot.  
 DR InterPro; IPRO03911; TGF\_TGFB.  
 DR InterPro; IPRO01839; TGB.  
 DR InterPro; IPRO01111; TGB\_N.  
 DR PFam; PF00019; TGF beta; 1.  
 DR PRINTS; PR01423; TGBETAA.  
 DR PRINTS; PR01424; TGBETAI.  
 DR SMART; SM00204; TGB; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 DR SMART; SM00204; TGB; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 DR Glycoprotein; Growth factor; Mitogen; Signal.  
 FT PROSP 30 278  
 FT SIGNAL 1 29  
 FT PROSP 30 278  
 FT CHAIN 279 390  
 FT DISULFD 285 294  
 FT DISULFD 293 356  
 FT DISULFD 322 387  
 FT DISULFD 326 389  
 FT DISULFD 355 355  
 FT CARBOHYD 82 82  
 FT CARBOHYD 136 136  
 FT CARBOHYD 176 176  
 FT SITE 244 246  
 SQ SEQUENCE 390 AA; 44185 MW; EB478088B7B590E CRC64;

Query Match 100.0%; Score 96; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.4e-06; Mismatches 0;  
 Matches 15; Conservative 0; Indels 0; Gaps 0;

QY 1 HANFCIGPCPYIWSL 15  
 DB 318 HANFCIGPCPYIWSL 332

RESULT 11  
 TGF1\_CAVPO  
 ID TGF1\_CAVPO  
 DD STANDARD; PRT; 390 AA.  
 AC Q9Z1V6; Q9QZB3; Q9R148;  
 DT 16-OCT-2001 (Rel. 40, Created)  
 DT 16-OCT-2001 (Rel. 40, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
 GN Name=TGBB1  
 OS Cavia porcellus (Guinea pig).  
 OC Bovaria; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.  
 OX NCBI\_TaxID=10141;  
 RN [1]  
 RP SEQUENCE FROM N.A.

RC STRAIN=Hartley;  
 RA Jeewan A.; McMurray D.N.; Yoshimura T.;  
 RT "Guinea pig transforming growth factor-beta in peritoneal exudates  
 after BCG vaccination."  
 RL Submitted (OCT-1999) to the EMBL/GenBank/DBJ databases.  
 RN [2]  
 RP SEQUENCE OF 265-382 FROM N.A.

RX	MEDLINE=99144670; PubMed=10025978; DOI=10.1016/S1043-4666(98)90002-3;	PT	CONFLICT	350	350	A	-> G (in Ref. 2).
RA	"Scarozza A.M., Ransing A.I., Wicher V., Wicher K.; "Spontaneous cytokine gene expression in normal guinea pig blood and	SQ	SEQUENCE	390 AA;	44328 MW;	1539F49BAC0FF1	CRC64;
RT	tissues,"	Query Match	Best Local Similarity	100.0%	Score 96;	DB 1;	Length 390;
RL	Cytokine 10:851-859 (1998).	Matches	15;	Conservative	Pred. No. 1.	4e-05;	
RN	[3]	Matches	0;	Mismatches	0;	Indels	0;
RP	SEQUENCE OF 279-371 FROM N.A.	OQ	1	HANFCIGPCPYIMSL	15	Gapp	0;
RC	STRAIN=Hartley; TISSUE=Trachea;	Db	318	HANFCIGPCPYIMSL	332		
RA	Morishima Y., Uchida Y., Nomura A., Ishii Y., Sakamoto T.,						
RA	"Guinea-pig transforming growth factor-beta expression in injured tracheal epithelium;"						
RT	Submitted (JUL-1999) to the EMBL/GenBank/DBJ databases.						
CC	-!- FUNCTION: Multifunctional peptide that controls proliferation, differentiation, and other functions in many cell types. Many cells synthesize TGF-beta 1 and essentially all of them have specific receptors for this peptide. TGF-beta 1 regulates the actions of many other peptide growth factors and determines a positive or negative direction of their effects. Play an important role in bone remodelling. It is a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and differentiation in committed osteoblasts (By similarity).						
CC	-!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-covalently linked to a latency-associated peptide (LAP) homodimer. The inactive complex can contain a latent TGF-beta binding protein. The active form is a homodimer of mature TGF-beta 1; disulfide-linked (By similarity).						
CC	-!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1 and LAP (By similarity).						
CC	--!- SIMILARITY: Belongs to the TGF-beta family.						
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <a href="http://www.isb-sib.ch/announce/">http://www.isb-sib.ch/announce/</a> or send an email to <a href="mailto:license@isb-sib.ch">license@isb-sib.ch</a> ).						
CC							
CC	EMBL; AF02780; AF02780.1; -.						
DR	EMBL; AF097509; AF097509.1; -.						
DR	HSSP; P01137; 1kLA.						
DR	InterPro; IPR002400; GF_CYSKNOT.						
DR	InterPro; IPR003911; TGF_TGFB.						
DR	InterPro; IPR001839; TGFb.						
DR	InterPro; IPR00111; TGFb_N.						
DR	Pfam; PF00019; TGF_beta_1.						
DR	Fan; PRO0088; TGFb_propeptide; 1.						
DR	PRINTS; PR00438; GF_CYSKNOT.						
DR	PRINTS; PR01423; TGFbETA.						
DR	PDDOM; PDD00357; TGFB; 1.						
DR	SMART; SNO0204; TGFB; 1.						
DR	PROSITE; PS00250; TGF_BETA_1; 1.						
DR	KW_Glycoprotein; Growth Factor; Mitogen; Signal.						
FT	SIGNAL						
FT	PROPER						
FT	30 278						
FT	Transforming growth factor beta 1.						
FT	Latency-associated peptide (By similarity).						
FT	29 29						
FT	Transforming growth factor beta 1.						
FT	Latency-associated peptide (By similarity).						
FT	285 294						
FT	By similarity.						
FT	356 356						
FT	By similarity.						
FT	322 387						
FT	By similarity.						
FT	326 389						
FT	Interchain (By similarity).						
FT	355 355						
FT	N-linked (GlcNAc. . . ) (By similarity).						
FT	Carbohydr						
FT	136 136						
FT	N-linked (GlcNAc. . . ) (By similarity).						
FT	Carbohydr						
FT	176 176						
FT	Cell attachment site (Potential).						
FT	SITE						
FT	244 246						
FT	Conflict						
FT	279 279						
FT	P -> S (in Ref. 3).						
FT	285 286						
FT	Conflict						
FT	309 309						
FT	K -> E (in Ref. 2).						
FT	322 C -> R (in Ref. 2).						



- RN [2] SEQUENCE FROM N.A., AND VARIANT PRO-10.  
 RP MEDLINE=85296301; PubMed=3861940;  
 RX DERYNCK R., JARRET J.A., CHEN E.Y., BATON D.H., BELL J.R.,  
 RA ASBOIAN R.K., ROBERTS A.B., SPORN M.B., GOEDDEL D.V.;  
 RT "Human transforming growth factor-beta complementary DNA sequence and  
 expression in normal and transformed cells.";  
 RL Nature 316:701-705(1985).  
 RN [3] SEQUENCE FROM N.A.  
 RC TISSUE=Duodenum; PubMed=12477932; DOI=10.1073/pnas.242603899;  
 RX MEDLINE=22280257; PubMed=12477932;  
 RA STRAUSBERG R.L., FEINGOLD E.A., GROUSE L.H., DERGE J.G.,  
 RA ALTMAN R.D., COLLINS P.S., WAGNER J., SHEMEN C.M., SCHULER G.D.,  
 RA ALTSCHUL S.F., ZEEBERG B., BUTTEL K.H., SCHAEFER C.F., BHAT N.K.,  
 RA HOPKINS R.F., JORDAN H., MOORE T., MAX S.I., WANG J., HSIEH F.,  
 RA BLATCHENKOV A.L., MARUSINA K., FARMER A.F., RUBIN G.M., HONG L.,  
 RA STAPLETON M., SOARES M.B., BONALDO M.P., CABAVANT T.L., SCHEETZ T.E.,  
 RA BROWNSTEIN M.J., USDIN T.B., TOBIN YUJI S., CARNINCIO P., PRANGE C.,  
 RA RAKHA S.S., LOQUELLANO N.A., PETERS G.J., ABRAMSON R.D., MULLAHY S.J.,  
 RA BOBAK S.A., McEWAN P.J., MCKERNAN K.J., MALEK J.A., GUARANTE P.H.,  
 RA RICHARDS S., WORLEY K.C., HALE S., GARCIA A.M., GAY L.J., HULYK S.W.,  
 RA VILLALON D.K., MUZIY D.M., SODERGREN E.J., LU X., GIBBS R.A.,  
 RA FAHEY J., HELTON B., KERTTMAN M., MADAN A., RODRIGUES S., SANCHEZ A.,  
 RA WHITING M., MADAN A., YOUNG A.C., SHVERCHENKO Y., BOUFFARD G.G.,  
 RA BLAKELEY R.W., TOUCHMAN J.W., GREEN E.D., DICKSON M.C.,  
 RA RODRIGUEZ A.C., GRIMWOOD J., SCHMUTZ J., MYERS R.M.,  
 RA BUTTERFIELD Y.S.N., KRZYWIŃSKI M.I., SKALSKA U., SMALIUS D.E.,  
 RA SCHNERICH A., SCHEIN J.B., JONES S.J.M., MARRA M.A.,  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 and mouse cDNA sequences.,";  
 RL PROC. NATL. ACAD. SCI. U.S.A. 99:16899-16903(2002).  
 RN [4] SEQUENCE OF 279-390 FROM N.A.  
 RC TISSUE=Gastric carcinoma;  
 RA URUSHIZAKI Y., NIITANI Y., TERUI T., KOSHIDA Y., MAHARA K., KOHGO Y.,  
 RT "Cloning and expression of the gene for human transforming growth  
 factor-beta in Escherichia coli.,";  
 RL TUMOR RES. 22:41-55(1987).  
 RN [5] SEQUENCE OF 279-329.  
 RC TISSUE=Bladder carcinoma;  
 RX MEDLINE=93229900; PubMed=8471846; DOI=10.1006/prep.1993.1019;  
 RA BOURDRE L., LIN C.-H., LAUREN S.L., ELMORE R.H., SUGARMAN B.J.,  
 RA HU S., WESTCOTT K.R.;  
 RT "Recombinant human transforming growth factor-beta 1: expression by  
 Chinese hamster ovary cells, isolation, and characterization.,";  
 RT PROTEIN EXPR. PURIF. 4:130-140(1993).  
 RN [6] SEQUENCE OF 279-301.  
 RX MEDLINE=85131019; PubMed=2982829;  
 RA MASSAGE J., LIKE B.,  
 RT "Cellular receptors for type beta transforming growth factor. Ligand  
 binding and affinity labeling in human and rodent cell lines.,";  
 RL J. BIOL. CHEM. 260:2636-2645(1985).  
 RN [7] SEQUENCE OF 30-42 AND 279-290, AND CHARACTERIZATION.  
 RX PUBMED=1162913;  
 RA MIKAZONO K., HELLMAN U., WERNBETDT C., HELDIN C.H.;  
 RT "Latent high molecular weight complex of transforming growth factor  
 beta 1. Purification from human platelets and structural  
 characterization.,";  
 RL J. BIOL. CHEM. 263:6407-6415(1988).  
 RN [8] REVIEW.  
 RX PUBMED=9150447;  
 RA MUNGER J.S., HARPEL J.G., GLEIZES P.E., MAZZIERI R., NUNES I.,  
 RA RIFFIN D.B.;  
 RT "Latent transforming growth factor-beta: structural features and  
 mechanisms of activation.,";  
 RL KIDNEY INT. 51:1376-1382(1997).  
 RN [9] STRUCTURE BY NMR OF 279-390.  
 RP MEDLINE=93144319; PubMed=8424942;  
 RX ARCHER S.J., BAX A., ROBERTS A.B., SPORN M.B., OGAWA Y., PIEZ K.A.,  
 RA WEATHERSEE J.A., TSANG M.L.-S., LUCAS R., ZHENG B.-L., WANKER J.,  
 RA TORCHIA D.A.;  
 RT "Transforming growth factor beta 1: NMR signal assignments of the  
 recombinant protein expressed and isotopically enriched using Chinese  
 hamster ovary cells.,";  
 RL Biochemistry 32:1152-1163(1993).  
 RN [10] STRUCTURE BY NMR OF 279-390.  
 RP MEDLINE=93143320; PubMed=8424943;  
 RA ARCHER S.J., BAX A., ROBERTS A.B., SPORN M.B., OGAWA Y., PIEZ K.A.,  
 RA WEATHERSEE J.A., TSANG M.L.-S., LUCAS R., ZHENG B.-L., WANKER J.,  
 RA TORCHIA D.A.;  
 RT "Transforming growth factor beta 1: secondary structure as determined  
 by heteronuclear magnetic resonance spectroscopy.,";  
 RL Biochemistry 32:1164-1171(1993).  
 RN [11] STRUCTURE BY NMR OF 279-390.  
 RP MEDLINE=6266150; PubMed=8679613; DOI=10.1021/bi9604946;  
 RX HINCK A.P., ARCHER S.J., QIAN S.W., ROBERTS A.B., SPORN M.B.,  
 RA WEATHERSEE J.A., TSANG M.L.-S., LUCAS R., ZHENG B.-L., WANKER J.,  
 RA TORCHIA D.A.;  
 RT "Transforming growth factor beta 1: three-dimensional structure in  
 solution and comparison with the X-ray structure of transforming  
 growth factor beta 2.,";  
 RL Biochemistry 35:8517-8534(1996).  
 RN [12] TISSUE SPECIFICITY.  
 RX PUBMED=11746398; DOI=10.1002/jcb.1249;  
 RA SHUR I., LOKIEC F., BLEISBERG I., BENAYAHU D.,  
 RT "Differential gene expression of cultured human osteoblasts.,";  
 RL J. CELL. BIOCHEM. 83:547-553(2001).  
 RN [13] VARIANT PRO-10.  
 RP PUBMED=978355;  
 RX YAMADA Y., MIYAUCHI A., GOTO J., TAKAGI Y., OKUIZUMI H., KANEMATSU M.,  
 RA HASE M., TAKAI H., HARADA A., IKEDA K.;  
 RT "Association of a polymorphism of the transforming growth factor-beta1  
 gene with genetic susceptibility to osteoporosis in postmenopausal  
 Japanese women.,";  
 RL J. BONE MINER. RES. 13:1569-1576(1998).  
 RN [14] VARIANTS CED CYS-218; HIS-218 AND ARG-225.  
 RP PUBMED=10973241; DOI=10.1038/79128;  
 RX KINOSHITA A., SAITO T., TOMITA H., MARITA Y., YOSHIDA K., GHADAMI M.,  
 RA YAMADA K., KONDOSI, IIGAWA S., NISHIMURA G., FUKUSHIMA Y.,  
 RA NAKAGOMI T., SAITO H., SUGIMOTO T., KAMEGAYA M., HISAKA K., MURRAY J.C.,  
 RA TANIGUCHI N., NIKAWA N., YOSHIIKA K.;  
 RT "Domain-specific mutations in TGFBI result in Camurati-Engelmann  
 disease.,";  
 RT NAT. GENET. 26:19-20(2000).  
 RN [15] VARIANTS CED HIS-81; CYS-218 AND ARG-225.  
 RP PUBMED=11062653; DOI=10.1038/81563;  
 RA JANSENS K., GERSHONI-BARUCH R., GUANABENS N., MIGONE N., RALSTON S.,  
 RA BONDUELLE M., LISSENS W., VAN MAELDERGEN L., VANHOENACKER F.,  
 RA VERBRUGGEN L., VAN HUL W.;  
 RT "Mutations in the gene encoding the latency-associated peptide of TGF-  
 beta 1 cause Camurati-Engelmann disease.,";  
 RT NAT. GENET. 26:273-275(2000).  
 RN [16] VARIANT PRO-10.  
 RP PUBMED=12202987; DOI=10.1007/s100380200069;  
 RA MATSUMOTO N., ISHIKAWA M., NIKAWA N., YOSHIIKA K.,  
 RT "A catalog of 16 single-nucleotide polymorphisms (SNPs) and 11 other  
 types of variations in genes for transforming growth factor-beta1  
 (TGF-beta1) and its signalling pathway.,";  
 RT J. HUM. GENET. 47:478-483(2002).  
 RN [17] CHARACTERIZATION OF VARIANTS CED HIS-81; CYS-218; ASP-222 AND ARG-225.

RX Published=12493741; DOI=10.1074/jbc.M208857200;  
 RA Janssens K., ten Dijke P., Ralston S.H., Bergmann C., Van Hul W.;  
 RT "Transforming growth factor-beta-1 mutations in Camurati-Engelmann  
 disease lead to increased signaling by altering either activation or  
 secretion of the mutant protein.";  
 RT *J. Biol. Chem.* 278:7718-7724(2003).  
 RN [18]  
 RP CHARACTERIZATION OF VARIANT CYS-218.  
 RN STRAIN=FVB/N; TISSUE=Mammary gland;  
 RX PubMed=12843182; DOI=10.1210/jc.2002-020564;  
 RA McGowan N.W., MacPherson H., Janssens K., Van Hul W., Firth J.C.,  
 RT Fraser M.D., Ralston S.H., Helfrich M.H.;  
 RT "A mutation affecting the latency-associated peptide of TGFbeta1 in  
 Camurati-Engelmann disease enhances osteoclast formation in vitro.";  
 RL *J. Clin. Endocrinol. Metab.* 88:3321-3326(2003).  
 CC FUNCTION: Multifunctional peptide that controls proliferation,  
 differentiation, and other functions in many cell types. Many  
 cells synthesize TGF-beta 1 and essentially all of them have  
 specific receptors for this peptide. TGF-beta 1 regulates the  
 actions of many other peptide growth factors and determines a  
 positive or negative direction of their effects. Play an important  
 role in bone remodelling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and  
 differentiation in committed osteoblasts (By similarity).  
 CC -1- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1;  
 CC disulfide-linked.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- TISSUE SPECIFICITY: Highly expressed in bone.  
 CC -1- INDUCTION: Activated in vitro at pH below 3.5 and over 12.5.  
 CC -1- PTM: Glycosylated (By similarity). The precursor is cleaved into  
 mature TGF-beta 1 and LAP.  
 CC --!- POLYMORPHISM: In post-menopausal Japanese women, the frequency of  
 Leu-10 is higher in subjects with osteoporosis than in controls.  
 CC --!- DISEASE: Defects in TGFBI are the cause of Camurati-Engelmann  
 disease.

Query Match 100.0%; Score 96; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.4e-06;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HANFCIGCPCTPYIWSL 15  
 Db 318 HANFCIGCPCTPYIWSL 332

RESULT 15

ID TGFI\_MOUSE STANDARD; PRT; 390 AA.

AC P02202;  
 DT 20-MAR-1987 (Rel. 04, Created)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)

DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
 Name=Tgfb1;  
 OS Mus musculus (Mouse);  
 OC Mammalia; Eutheria; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Muridae; Murinae; Mus.  
 OC NCBI\_TaxId=10090;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=86168129; PubMed=3007454;  
 RA Dertynck R., Jarrett J.A., Chen E.Y., Goeddel D.V.;  
 RT "The murine transforming growth factor-beta precursor.";  
 RL *J. Biol. Chem.* 261:4377-4379(1986).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RX STRAIN=BALB/C;  
 RA MEDLINE=86169545; PubMed=8522200; DOI=10.1016/0378-1119(95)00460-N;  
 RA Guron C., Sudarshan C., Raghow R.;  
 RT "Molecular organization of the gene encoding murine transforming  
 growth factor beta 1.";  
 RT Gene 165:325-326(1995).

RN [3]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=C57BL/6, and NOD/LT; TISSUE=Spleen;  
 RA Poilot L., Benoit C., Mathis D.;  
 RT "Transforming growth factor-beta 1 sequence and expression: no  
 difference between NOD/Lt and C57Bl/6 mouse strains.";  
 RL Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.

[4]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=FVB/N; TISSUE=Mammary gland;  
 RX PubMed=22388657; DOI=10.1073/pnas.242603899;  
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Blat N.K.,  
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Degege J.G.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Heisler F.,  
 RA Diachenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares M.B., Bonaldo M.P., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Udin T.B., Toshimura S., Carninci P., Prange C.,  
 RA Raha S.S., Louie-Llano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,  
 RA Bosak S.A., McBwan P.J., McKernan K.J., Malek J.A., Gunnarsson P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahey J., Heitton E., Keightman M., Madan A., Rodrigues S., Sanchez A.,  
 RA Whaling M., Madan A., Young C.A., Shevchenko Y., Bouffard G.G.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grinwood J., Schmitz J., Myers R.M.,  
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smialius D.E.,  
 RA Schnarch A., Schein J.E., Jones S.J.M., Matra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).  
 CC -1- FUNCTION: TGF-beta is a multifunctional peptide that control  
 CC proliferation, differentiation, and other functions in many cell  
 CC types. Many cells synthesize TGF-beta and essentially all of them  
 CC have specific receptors for this peptide. TGF-beta regulates the  
 CC actions of many other peptide growth factors and determines a  
 CC positive or negative direction of their effects. Play an important  
 CC role in bone remodelling. It is a potent stimulator of  
 CC osteoblastic bone formation, causing chemotaxis, proliferation and  
 CC differentiation in committed osteoblasts (By similarity).  
 CC -1- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 CC covalently linked to a latency-associated peptide (LAP) homodimer.  
 CC The inactive complex can contain a latent TGF-beta binding  
 CC protein. The active form is a homodimer of mature TGF-beta 1;  
 CC disulfide-linked (By similarity).  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- PTM: Glycosylated (By similarity).  
 CC and LAP (By similarity). The precursor is cleaved into mature TGF-beta 1  
 CC and LAP (By similarity). Belongs to the TGF-beta family.  
 CC ---  
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 DR EMBL; MI3177; AAA0423.1;  
 DR EMBL; La2462; AAB00138.1;  
 DR EMBL; La2456; AAB00138.1; JOINED.  
 DR EMBL; La2457; AAB00138.1; JOINED.  
 DR EMBL; La2458; AAB00138.1; JOINED.  
 DR EMBL; La2459; AAB00138.1; JOINED.  
 DR EMBL; La2460; AAB00138.1; JOINED.  
 DR EMBL; La2461; AAB00138.1; JOINED.  
 DR EMBL; AAB009863; CAA08900.1; -.  
 DR EMBL; BCO13738; AAB0013738.1; -.  
 DR PIR; A01396; WFMS2.  
 DR HSSP; P01137; IKLIA.  
 DR MGD; MGI:98725; TGFb1.  
 DR GO; GO:0005578; Clextracellular matrix; IDA.  
 DR GO; GO:0006954; P:inflammatory response; IMP.

DR GO; GO:0007515; Pllymph gland development; IMP.  
 DR GO; GO:0008220; Pinecrosis; IMP.  
 DR GO; GO:000648; Protein amino acid phosphorylation; IDA.  
 DR GO; GO:004127; P regulation of cell proliferation; IDA.  
 DR GO; GO:0016205; P regulation of myogenesis; IDA.  
 DR GO; GO:0042306; P transforming growth factor beta receptor si. . . ; IDA.  
 DR InterPro; IPR002400; GF cysknot.  
 DR InterPro; IPR003911; TGF-TGRB.  
 DR InterPro; IPR001839; TGF-B.  
 DR InterPro; IPR01111; TGFb\_N.  
 DR Pfam; PF00019; TGF<sub>B</sub> propeptide; 1.  
 DR PRINTS; PR00438; GFCYSKNOT.  
 DR PRODOM; PD000357; TGFbeta\_1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 KW Glycoprotein; Growth factor; Mitogen; Signal.  
 FT SIGNAL 1 29 By similarity.  
 FT PROPEP 30 278 Latency-associated peptide.  
 FT CHAIN 279 Transforming growth factor beta 1.  
 FT DISULFID 285 294 By similarity.  
 FT DISULFID 293 356 By similarity.  
 FT DISULFID 322 387 By similarity.  
 FT DISULFID 326 389 By similarity.  
 FT DISULFID 355 355 Interchain (By similarity).  
 FT CARBOHYD 82 82 N-linked (GlcNAc. . .) (By similarity).  
 FT CARBOHYD 136 136 N linked (GlcNAc. . .) (By similarity).  
 FT CARBOHYD 176 176 N-linked (GlcNAc. . .) (By similarity).  
 FT SITE 244 246 Cell attachment site (Potential).  
 SQ SEQUENCE 390 AA; 4381A51B711D689B CRC64;  
 Query Match 100.0%; Score 96; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.4e-06;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 HANFCIGPCYIWSL 15  
 Db 318 HANFCIGPCYIWSL 332

Search completed: June 14, 2005, 15:51:06

Job time : 81.1923 secs

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OM protein - protein search, using sw model

Run on: June 14, 2005, 15:35:40 ; Search time 16.7308 Seconds

(without alignments)  
 86.263 Million cell updates/sec

Title: US-09-831-253P-1  
 Perfect score: 96

Sequence: 1 HANFCIGPCPYIWSL 15

Scoring table: BLOSUM62  
 Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Maximum Match 0%

Listing first 45 summaries

Database : PIR\_79.\*

1: pir1.\*  
 2: pir2.\*  
 3: pir3.\*  
 4: pir4.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	96	100.0	130	2 I48196	transforming growth factor beta-1 precursor - golden hamster (fragment)
2	96	100.0	315	2 A40057	C;Species: <i>Mesocricetus auratus</i> (Golden hamster)
3	96	100.0	390	1 WFRH2	C;Date: 02-Jul-1996 #sequence_revision 04-Oct-1996 #text_change 09-Jul-2004
4	96	100.0	390	1 WFM92	R;Wong, D.T.; Donoff, R.B.; Yang, J.; Song, B.Z.; Matossian, K.; Nagura, N.; Blovic, A.; Am, J. Pathol. 143, 130-142, 1993
5	96	100.0	390	2 JC4960	A;Title: Sequential expression of transforming growth factors alpha and beta 1 by eosin A;Reference number: I48196; MUID:93304479; PMID:8311544
6	96	100.0	390	2 A27512	A;Accession: I48196
7	96	100.0	390	2 I46463	A;Status: preliminary; translated from GB/EMBL/DDBJ
8	96	100.0	390	2 S10219	A;Molecule type: mRNA
9	96	100.0	391	2 S01413	A;Cross-references: UNIPROT:Q08714; EMBL:X60296; NID:9396177; PIDN:CAA42838.1; PID:93961 C;Superfamily: innibin
10	96	100.0	373	2 A41918	Query Match 100.0%; Score 96; DB 2; Length 130;
11	82	85.4	412	2 A39489	Best Local Similarity 100.0%; Pred. No. 3.3e-07; Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
12	77	80.2	382	2 B61036	Db 58 HANFCIGPCPYIWSL 72
13	77	77.1	112	2 A61439	RESULT 2
14	70	72.9	413	1 WFLLB2	A40057
15	70	72.9	414	1 WFMKB2	transforming growth factor beta-1 precursor - bovine (fragment)
16	70	72.9	414	1 WFM82	N;Alternate names: beta-TGF; cartilage-inducing factor-A; RGF-dependent TGF or dEGF; MGF
17	70	72.9	414	2 A31249	C;Species: <i>Bos primigenius taurus</i> (cattle)
18	70	72.9	442	2 S01825	C;Date: 28-Feb-1992 #sequence revision 28-Feb-1992 #text_change 09-Jul-2004
19	70	72.9	409	2 A36192	C;Accession: A40057; A2320; A0284; A2432; B61439
20	64	65.7	410	2 A41397	R;Van Obergem-Schilling, E.; Kondala, P.; Ludwig, R.L.; Sporn, M.B.; Baker, C.C.
21	64	66.7	410	2 A55706	Mol. Endocrinol. 1, 693-698, 1987
22	64	66.7	410	2 A55706	A;Title: Complementary deoxyribonucleic acid cloning of bovine transforming growth factor-beta2.3 and -beta2.4;Reference number: A40057; MUID:91042552; PMID:3153459
23	64	66.7	412	2 A36169	A;Accession: A40057
24	64	64.6	412	2 A34939	A;Molecule type: mRNA
25	51.9	360	2 A29619	A;Cross-references: UNIPROT:P18341; GB:M36271; NID:9163747; PIDN:AAA30778.1; PID:9163748	
26	49	50.0	102	2 A36192	R;Osawa, Y.; Schmidt, D.K.; Dasch, J.R.; Chang, R.J.; Glaser, C.B.
27	48	50.0	115	2 PN05024	J. Biol. Chem. 267, 23325-23348, 1992
28	48	50.0	424	1 B49095	A;Title: Purification and properties of a type beta transforming growth factor from bovin inhibin beta-A cha
29	48	50.0	424	1 S31440	A;Reference number: A05284; MUID:84104793; PMID:6607069

### ALIGNMENTS

inhibin beta-A cha  
 inhibin beta-A cha  
 inhibin beta-C cha  
 inhibin beta-A cha  
 hypothetical prote  
 alpha-glucosidase  
 inhibin beta-C cha  
 probable oxygen-in  
 oxygen-independent  
 exonuclease ABC s  
 6-phosphofructo-2-  
 insulin receptor p  
 Fc1pharb - human  
 IgA (Fc) receptor  
 hypothetical prote

30	48	50.0	424	1 WFPGBA
31	48	50.0	425	1 S50898
32	48	50.0	425	1 I47072
33	48	50.0	426	1 B24248
34	48	50.0	768	2 T22758
35	45	47.9	108	2 D69017
36	46	47.9	864	2 JC4624
37	44	45.8	352	2 JC2466
38	44	45.8	399	2 C71728
39	44	45.8	404	2 AB3473
40	44	45.8	593	2 F89885
41	44	45.8	827	2 S48455
42	44	45.8	1382	1 INHUR
43	43	43.5	239	2 G02630
44	43	45.3	43	2 JH0332
45	43	44.8	221	2 T20781



A;Title: Cloning and sequence analysis of simian transforming growth factor-beta cDNA.  
A;Reference number: A26960; MUID:87246074; PMID:3474130  
A;Accession: A26960  
A;Molecule type: mRNA  
A;Residues: 1-390 <SHA>  
A;Cross-references: UNIPROT:P09533; GB:ML6658; NID:9176552; PIDN:AAA35369.1; PID:9176553  
C;Superfamily: inhibin  
C;Keywords: growth factor  
F;17-390/Product: transforming growth factor beta #status predicted <MAT>  
Query Match 100.0%; Score 96; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 8.3e-07;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWSL 15  
Db 318 HANFCIGPCPYIWSL 332

RESULT 6  
JC023  
transforming growth factor beta-1 - dog  
C;Species: Canis lupus familiaris (dog)  
C;Date: 13-Jun-1995 #sequence\_revision 14-Jul-1995 #text\_change 09-Jul-2004  
C;Accession: JCC4023  
R;Manning, A.M.; Auchampach, J.A.; Drong, R.F.; Slightom, J.L.  
Gene 155, 307-308, 1995  
A;Title: Cloning of a canine cDNA homologous to the human transforming growth factor-beta  
A;Reference number: JC0223; MUID:95237630; PMID:7721110  
A;Accession: JCC4023  
A;Molecule type: mRNA  
A;Residues: 1-390 <MAN>  
A;Cross references: UNIPROT:P54831; GB:L34956; NID:9516071; PIDN:AAA51458.1; PID:9516072  
C;Comment: This factor plays a multifunctional role as a regulator of mammalian cell growth  
A;Gene: tgf-beta1  
C;Superfamily: inhibin  
C;Keywords: growth factor; transforming protein  
F;288390/Product: transforming growth factor beta 1 #status predicted <MAT>  
Query Match 100.0%; Score 96; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 8.3e-07;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWSL 15  
Db 318 HANFCIGPCPYIWSL 332

RESULT 7  
A27512  
transforming growth factor beta-1 precursor - pig  
N;Alternate names: TGF-beta  
C;Species: Sus scrofa domestica (domestic pig)  
C;Date: 05-Jun-1988 #sequence\_revision 05-Jun-1988 #text\_change 09-Jul-2004  
C;Accession: A27512; A6356; T46567  
R;Deryck, R.; Rhee, L.  
Nucleic Acids Res. 15, 3187, 1987  
A;Title: Sequence of the porcine transforming growth factor-beta precursor.  
A;Reference number: A27512; MUID:87174644; PMID:3470708  
A;Accession: A27512  
A;Molecule type: mRNA  
A;Residues: 1-390 <DER>  
A;Cross-references: UNIPROT:P07200  
R;Cheifetz, S.; Weatherhead, J.A.; Tsang, M.L.S.; Anderson, J.K.; Mole, J.B.; Lucas, R.;  
Cell 48, 409-415, 1987  
A;Title: The transforming growth factor-beta system, a complex pattern of cross-reactive  
A;Reference number: A90890; MUID:87102890; PMID:2879635  
A;Accession: A26356  
A;Molecule type: protein  
A;Residues: 279-322 <CHE>  
R;Kondaiah, P.; van Ooberghen-Schilling, E.; Ludwig, R.L.; Dhar, R.; Sporn, M.B.; Robert

J. Biol. Chem. 263, 18313-18317, 1988  
A;Title: cDNA cloning of porcine transforming growth factor-beta 1 mRNA. Evidence for a  
A;Reference number: I46657; MUID:89054010; PMID:2461367  
A;Accession: I46657  
A;Status: preliminary; translated from GB/EMBL/DBJ  
A;Residues: 1-390 <KON>  
A;Cross-references: GB:M23703; NID:9755044; PIDN:AAA64616.1; PID:9755045  
C;Genetics:  
A;Gene: TGFΒ; TGF-beta-1  
C;Superfamily: inhibin  
C;Keywords: growth factor  
Query Match 100.0%; Score 96; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 8.3e-07;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWSL 15  
Db 318 HANFCIGPCPYIWSL 332

RESULT 8  
I46463  
transforming growth factor beta-1 - sheep  
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)  
C;Date: 19-Dec-1997 #sequence\_revision 19-Dec-1997 #text\_change 09-Jul-2004  
C;Accession: I46463; S45115  
R;Woodall, C.J.; McLaren, L.J.; Watt, N.J.  
Gene 150, 371-373, 1994  
A;Title: Sequence and chromosomal localization of the gene encoding ovine latent transfor  
A;Reference number: I46463; MUID:95121932; PMID:7821809  
A;Status: preliminary; translated from GB/EMBL/DBJ  
A;Molecule type: mRNA  
A;Residues: 1-390 <WOO>  
A;Cross-references: UNIPROT:P50414; EMBL:X6916; NID:9496648; PIDN:CAA54242.1; PID:94966  
A;Note: submitted to the EMBL Data Library, December 1993  
C;Superfamily: inhibin  
Query Match 100.0%; Score 96; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 8.3e-07;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWSL 15  
Db 318 HANFCIGPCPYIWSL 332

RESULT 9  
S10219  
transforming growth factor beta-1 precursor - rat  
N;Alternate names: TGF type 2; TGF-beta  
C;Species: Rattus norvegicus (Norway rat)  
C;Date: 12-Feb-1993 #sequence\_revision 12-Feb-1993 #text\_change 09-Jul-2004  
C;Accession: S10219; PT0023; S02267  
R;Olan, S.W.; Kondiah, P.; Roberts, A.B.; Sporn, M.B.  
Nucleic Acids Res. 18, 3059, 1990  
A;Title: cDNA cloning by PCR of rat transforming growth factor beta-1.  
A;Reference number: S10219; MUID:9022425; PMID:2349108  
A;Accession: S10219  
A;Molecule type: mRNA  
A;Residues: 1-390 <QIA>  
A;Cross-references: UNIPROT:P17246; EMBL:X52498; NID:957341; PIDN:CAA36741.1; PID:957342  
R;Okada, F.; Yamaguchi, K.; Ichihara, A.; Nakamura, T.  
J. Biochem. 106, 304-310, 1989  
A;Title: Purification and structural analysis of a latent form of transforming growth fa  
A;Reference number: PT0023; MUID:90036779; PMID:2478527  
A;Accession: PT0023  
A;Molecule type: protein  
A;Residues: 30-32, X',33-38, Q',40-42, X',44 <OKX>  
R;Okada, F.; Yamaguchi, K.; Ichihara, A.; Nakamura, T.  
FEBS Lett. 242, 240-244, 1989

A;Title: One of two subunits of masking protein in latent TGF-beta is a part of pro-TGF-  
A;Reference number: S02267; MUID:89121078; PMID:2914605  
A;Accession: S02267  
A;Molecule type: Protein  
A;Residues: 30-32,'X','34-38,'Q',40-42,'X',44 <OK2>  
C;Superfamily: inhibin  
C;Keywords: glycoprotein; growth factor; integrin binding  
F;1-29/Domain: signal sequence (#status predicted <SIG>  
F;30-378/Domain: propeptide experimental <PRO>  
F;244-245/Region: cell attachment (R-G-D) motif  
F;279-390/Product: transforming growth factor beta-1 #status predicted <MAT>  
F;82,116,176/Binding site: carbohydrate (Man) (covalent) #status predicted  
Query Match 100.0%; Score 96; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 8.3e-07;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWSL 15  
Db 318 HANFCIGPCPYIWSL 332

RESULT 10  
S01413 transforming growth factor beta-1 precursor - chicken  
C;Species: Gallus gallus (chicken)  
C;Date: 30-Jun-1989 #sequence\_revision 30-Jun-1989 #text\_change 09-Jul-2004  
C;Accession: S01413  
R;Jakowlew, S.B.; Dillard, P.J.; Sporn, M.B.; Roberts, A.B.  
Nucleic Acids Res. 16, 8730, 1988  
A;Title: Nucleotide sequence of chicken transforming growth factor-beta 1 (TGF-beta 1).  
A;Reference number: S01413; MUID:88335639; PMID:3166520  
A;Accession: S01413  
A;Molecule type: DNA  
A;Residues: 1-391 <JAK>  
A;Cross-references: UNIPROT:P07200; EMBL:X12373; NID:963808; PIDN:CAA30933.1; PID:963809  
C;Superfamily: inhibin  
C;Keywords: growth factor

Query Match 100.0%; Score 96; DB 2; Length 391;  
Best Local Similarity 100.0%; Pred. No. 8.3e-07;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWSL 15  
Db 319 HANFCIGPCPYIWSL 333

RESULT 11  
A1918 transforming growth factor beta-4 precursor - chicken (fragment)  
N;Alternate names: TGF-beta 4  
C;Species: Gallus gallus (chicken)  
C;Accession: S1-Dec-1993 #sequence\_revision 31-Dec-1993 #text\_change 09-Jul-2004  
R;Burt, D.W.; Jakowlew, S.B.  
Mol. Endocrinol. 6, 989-992, 1992  
A;Title: Correction: a new interpretation of a chicken transforming growth factor-beta 4  
A;Reference number: A1918; MUID:92357039; PMID:1353860  
A;Accession: A1918  
A;Molecule type: mRNA  
A;Residues: 1-373 <BUR>  
A;Cross-references: UNIPROT:P09531; GB:M31160; GB:X08012; GB:S41706; NID:91262437; PIDN:  
A;Note: sequence extracted from NCBI backbone (NCBIN:11016, NCBIPI:110187)  
A;Note: this report corrects and reinterprets the sequence from reference A34941  
R;Jakowlew, S.B.; Dillard, P.J.; Sporn, M.B.; Roberts, A.B.  
Mol. Endocrinol. 2, 1196-1195, 1988  
A;Title: Complementary deoxyribonucleic acid cloning of a messenger ribonucleic acid end  
A;Reference number: A34941; MUID:89112198; PMID:2464131  
A;Molecule type: mRNA  
A;Accession: A34941  
A;Cross-references: UNIPROT:P16176; GB:J05180; NID:9214821; PIDN:AAA49968.1; PID:9214822  
A;Residues: MPMSIGPKSCGGSPWRPPGTTAPWSTGSRRATASSCCTSSRVRAEVGRALL', 122-209, 'D', 211-373 <

A;Note: this sequence has been corrected in A41918  
C;Superfamily: inhibin  
C;Keywords: glycoprotein; growth factor  
F;1/Domain: signal sequence (fragment) #status predicted <SIG>  
F;213-225/Region: cell attachment (R-G-D) motif  
F;260-373/Product: transforming growth factor beta-4 #status predicted <MAT>  
F;54,109,153/Binding site: carbohydrate (Man) (covalent) #status predicted  
Query Match 85.4%; Score 82; DB 2; Length 373;  
Best Local Similarity 92.3%; Pred. No. 9.3e-05;  
Matches 12; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
Qy 2 ANFCIGPCPYIWS 14  
Db 302 ANFCIGPCPYIWS 314

RESULT 12  
A39489 transforming growth factor beta-2 precursor - chicken  
N;Alternate names: TGF-beta2  
C;Species: Gallus gallus (chicken)  
C;Date: 17-Jul-1992 #sequence\_revision 17-Jul-1992 #text\_change 09-Jul-2004  
C;Accession: A39489; AG1018; S28849  
R;Burt, D.W.; Paton, I.R.  
DNA Cell Biol. 10, 723-734, 1991  
A;Title: Molecular cloning and primary structure of the chicken transforming growth factor  
A;Reference number: A39489; MUID:92075163; PMID:1683775  
A;Accession: A39489  
A;Molecule type: DNA  
A;Residues: 1-412 <BUR>  
A;Cross-references: UNIPROT:P30371; GB:X5P071; NID:963810; PIDN:CAA41101.1; PID:9933616;  
R;Jakowlew, S.B.; Dillard, P.J.; Sporn, M.B.; Roberts, A.B.  
Growth Factors 2, 123-133, 1990  
A;Title: Complementary deoxyribonucleic acid cloning of an mRNA encoding transforming growth factor  
A;Reference number: A61018; MUID:90253805; PMID:2349183  
A;Accession: A61018  
A;Status: not compared with conceptual translation  
A;Molecule type: mRNA  
A;Residues: 1-94, 'G', 95-244, 'L', 246-412 <JAK>  
C;Genetics: A;Intronics: 115/1; 169/3; 214/1; 251/1; 309/2; 360/3  
C;Superfamily: inhibin  
C;Keywords: growth factor; growth regulation; mitogen; transformation  
F;1-26/Domain: signal sequence #status predicted <SIG>  
F;27-300/Region: propeptide #status predicted <PRO>  
F;301-412/Product: transforming growth factor beta-2 #status predicted <MAT>  
Query Match 80.2%; Score 77; DB 2; Length 412;  
Best Local Similarity 78.6%; Pred. No. 0.00055; Mismatches 2; Indels 0; Gaps 0;  
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWS 14  
Db 340 HANFCAGACPYIWS 353

RESULT 13  
B61036 transforming growth factor beta-5 precursor - African clawed frog  
C;Species: Xenopus laevis (African clawed frog)  
C;Date: 31-Dec-1993 #sequence\_revision 03-Feb-1994 #text\_change 09-Jul-2004  
C;Accession: A34929; B61036  
R;Kondoaih, P.; Sanda, M.J.; Smith, J.M.; Fields, A.; Roberts, A.B.; Sporn, M.B.; Melton, J. Biol. Chem. 265, 1089-1093, 1990  
A;Title: Identification of a novel transforming growth factor-beta (TGF-beta5) mRNA in Xe  
A;Reference number: A34929; MUID:9010090; PMID:2295601  
A;Accession: A34929  
A;Molecule type: mRNA  
A;Residues: 1-382 <KON>  
A;Cross-references: UNIPROT:P16176; GB:J05180; NID:9214821; PIDN:AAA49968.1; PID:9214822  
R;Roberts, A.B.; Rosa, F.; Roche, N.S.; Coligan, J.E.; Garfield, M.; Robert, M.L.; Kond  
Growth Factors 2, 135-147, 1990

A;Title: Isolation and characterization of TGF-beta2 and TGF-betas from medium condition  
A;Reference number: A61036; MUID:90253806; PMID:2340184  
A;Accession: B61036  
A;Molecule type: protein  
A;Residues: 271-276, 'X', 278-284, 'XX', 287-299 <ROB>  
C;Superfamily: inhibin  
C;Keywords: growth factor  
F;271-382/Product: transforming growth factor beta-5 #status experimental <MAT>

Query Match 77.1%; Score 74; DB 2; Length 382;  
Best Local Similarity 78.6%; Pred. No. 0.0014; 1; Mismatches 11; Conservative 2; Mismatches 1; Indels 0; Gaps 0;  
Db 311 ANYCLGNCPYIWSM 324

RESULT 14

A61439  
transferring growth factor beta-2 - bovine

N;Alternate names: cartilage-inducing factor B; MGF-a; milk growth factor a

C;Species: Bos primigenius taurus (cattle)  
C;Accession: 107-Oct-1994 #sequence revision 97-Oct-1994 #text\_change 09-Jul-2004

R;Jin, Y.; Cox, D.A.; Knecht, R.; Raschdorf, F.; Cerletti, N.

J. Protein Chem. 10, 563-575, 1991

A;Title: Separation, purification, and sequence identification of TGF-beta1 and TGF-beta2

A;Reference number: A61439; MUID:92189724; PMID:1799413

A;Accession: A61439  
A;Molecule type: protein  
A;Residues: 1-112 <JIN>

A;Cross-references: UNIPROT:P21214

A;Experimental source: milk

R;Seyedin, S.M.; Segarini, P.R.; Rosen, D.M.; Thompson, A.Y.; Bentz, H.; Graycar, J.

J. Biol. Chem. 262, 1946-1949, 1987

A;Title: Cartilage-inducing factor-B is a unique protein structurally and functionally related to TGF-beta1

A;Reference number: A25485; MUID:87137406; PMID:3469199

A;Accession: A25485  
A;Molecule type: protein

A;Residues: 1-30 <SEY>

A;Experimental source: bone

R;Ogawa, Y.; Schmidt, D.K.; Dasch, J.R.; Chang, R.J.; Glaser, C.B.

J. Biol. Chem. 267, 2325-2328, 1992

A;Title: Purification and characterization of transforming growth factor-beta2.3 and -beta3

A;Reference number: A42320; MUID:92129307; PMID:1733936

A;Accession: B42320  
A;Molecule type: protein

A;Residues: 1-6, 'X', 8-14, 'XX', 17-34 <OGA>

A;Experimental source: bone

R;Cox, D.A.; Buerk, R.R.

Bur. J. Biochem. 197, 353-358, 1991

A;Title: Isolation and characterisation of milk growth factor, a transforming-growth-factor-beta3

A;Reference number: S13389; MUID:91224126; PMID:2026157

A;Accession: S13389  
A;Molecule type: protein  
A;Residues: 1-16, 'XX', 19 <COX>

A;Experimental source: milk

C;Superfamily: inhibin  
C;Keywords: growth factor; growth regulation; homodimer; mitogen

Query Match 72.9%; Score 70; DB 1; Length 413;

Best Local Similarity 71.4%; Pred. No. 0.0059; 1; Mismatches 10; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 1 HANFCIGCPCHIWS 14  
Db 40 NANFCAGACPYLWS 53

RESULT 15

WFKXB2  
transforming growth factor beta-2 precursor - African clawed frog



Gencore version 5.1.6  
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## Om protein - protein search, using SW model

Run on: June 14, 2005, 15:51:20 ; Search time 78.4615 Seconds  
(Without alignments)  
73.285 Million cell updates/sec

Title: US-09-831-253F-1  
Perfect score: 96

Sequence: 1 HANFCIGPCPYIWSL 15  
Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1710399 seqs, 38333425 residues

Total number of hits satisfying chosen parameters: 1710399

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA:  
1: /cgn2\_6/ptodata/2/pubpaas/us07\_PUBCOMB.pep:\*

2: /cgn2\_6/ptodata/2/pubpaas/PCT\_NEW\_PUB\_pep:\*

3: /cgn2\_6/ptodata/2/pubpaas/us06\_PUBCOMB.pep:\*

4: /cgn2\_6/ptodata/2/pubpaas/us07\_NEW\_PUB\_pep:\*

5: /cgn2\_6/ptodata/2/pubpaas/us07\_PUBCOMB.pep:\*

6: /cgn2\_6/ptodata/2/pubpaas/PCTUS\_PUBCOMB.pep:\*

7: /cgn2\_6/ptodata/2/pubpaas/us08\_NEW\_PUB\_pep:\*

8: /cgn2\_6/ptodata/2/pubpaas/us08\_PUBCOMB.pep:\*

9: /cgn2\_6/ptodata/2/pubpaas/us09\_PUBCOMB.pep:\*

10: /cgn2\_6/ptodata/2/pubpaas/us09c\_PUBCOMB.pep:\*

11: /cgn2\_6/ptodata/2/pubpaas/us09c\_PUBCOMB.pep:\*

12: /cgn2\_6/ptodata/2/pubpaas/us09c\_PUBCOMB.pep:\*

13: /cgn2\_6/ptodata/2/pubpaas/us10\_PUBCOMB.pep:\*

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15: /cgn2\_6/ptodata/2/pubpaas/us10c\_PUBCOMB.pep:\*

16: /cgn2\_6/ptodata/2/pubpaas/us10d\_PUBCOMB.pep:\*

17: /cgn2\_6/ptodata/2/pubpaas/us10e\_PUBCOMB.pep:\*

18: /cgn2\_6/ptodata/2/pubpaas/us10f\_PUBCOMB.pep:\*

19: /cgn2\_6/ptodata/2/pubpaas/us11a\_PUBCOMB.pep:\*

20: /cgn2\_6/ptodata/2/pubpaas/us11c\_PUBCOMB.pep:\*

21: /cgn2\_6/ptodata/2/pubpaas/us11d\_PUBCOMB.pep:\*

22: /cgn2\_6/ptodata/2/pubpaas/us13\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

ALIGNMENTS

RESULT 1  
US-09-864-761-47871  
; Sequence 47871, Application US/09864761  
; Patent No. US20020049763A1  
; GENERAL INFORMATION:  
; APPLICANT: Penn, Sharron G.  
; APPLICANT: Rank, David R.  
; APPLICANT: Hanzel, David K.  
; APPLICANT: Chen, Wensheng  
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR  
TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY  
FILE REFERENCE: Aenomica-X-1  
CURRENT APPLICATION NUMBER: US/09/864,761  
CURRENT FILING DATE: 2001-05-23  
PRIOR APPLICATION NUMBER: US 60/180,312  
PRIOR FILING DATE: 2000-02-04  
PRIOR APPLICATION NUMBER: US 60/207,456  
PRIOR FILING DATE: 2000-05-26  
PRIOR APPLICATION NUMBER: US 09/632,366  
PRIOR FILING DATE: 2000-08-03  
PRIOR APPLICATION NUMBER: GB 24263,6  
PRIOR FILING DATE: 2000-10-04  
PRIOR APPLICATION NUMBER: US 60/236,359  
PRIOR FILING DATE: 2000-09-27  
PRIOR APPLICATION NUMBER: PCT/US01/00666  
PRIOR FILING DATE: 2001-01-30  
PRIOR APPLICATION NUMBER: PCT/US01/00667  
PRIOR FILING DATE: 2001-01-30  
PRIOR APPLICATION NUMBER: PCT/US01/00664  
PRIOR FILING DATE: 2001-01-30  
PRIOR APPLICATION NUMBER: PCT/US01/00659  
PRIOR FILING DATE: 2001-01-30  
PRIOR APPLICATION NUMBER: PCT/US01/00655  
PRIOR FILING DATE: 2001-01-30

Result No.	Score	Query Match Length	DB ID	Description
1	96	100.0	51 9 US-09-864-761-47871	Sequence 47871, A
2	96	100.0	60 10 US-09-791-301-122	Sequence 122, App
3	96	100.0	60 16 US-10-812-642-122	Sequence 122, App
4	96	100.0	70 9 US-09-848-664-9	Sequence 9, Appli
5	96	100.0	98 14 US-10-187-394-1	Sequence 1, Appli
6	96	100.0	99 10 US-09-754-831A-48	Sequence 48, Appli
7	96	100.0	99 17 US-10-671-31748	Sequence 2, Appli
8	96	100.0	112 9 US-09-813-271B-2	Sequence 54, Appli
9	96	100.0	112 15 US-10-366-345-54	Sequence 104, Appli
10	96	100.0	112 17 US-10-872-198-104	Sequence 13, Appli
11	96	100.0	113 9 US-09-813-398-13	



; TITLE OF INVENTION: Controlled Release of No. US2002016414A1-Heparin Binding Growth  
; TITLE OF INVENTION: Factors from Heparin Containing Matrices  
; FILE REFERENCE: ETH 1.08  
; CURRENT APPLICATION NUMBER: US/09/848,664  
; CURRENT FILING DATE: 2001-05-03  
; PRIOR APPLICATION NUMBER: 09/298,084  
; PRIOR FILING DATE: 1999-04-22  
; NUMBER OF SEQ ID NOS: 31  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO: 9  
; LENGTH: 70  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; US-09-848-664-9

RESULT 5  
Query Match 100.0%; Score 96; DB 9; Length 70;  
Best Local Similarity 100.0%; Pred. No. 8.9e-06;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWSL 15  
Db 40 HANFCIGPCPYIWSL 54

US-10-187-394-1  
Sequence 1, Application US/10187394  
Publication No. US20030176667A1  
GENERAL INFORMATION:  
APPLICANT: KECK, PETER  
APPLICANT: SMART, JOHN  
TITLE OF INVENTION: SINGLE CHAIN ANALOGS OF TGF-B  
TITLE OF INVENTION: SUPERFAMILY (MORPHONS)  
NUMBER OF SEQUENCES: 45  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: PATENT ADMINISTRATOR, TESLA, HURWITZ &  
STREET: 125 HIGH STREET  
CITY: BOSTON  
STATE: MA  
COUNTRY: USA  
ZIP: 02110  
COMPUTER READABLE FORM:  
MEDIUM TYPE: FLOPPY disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/10/187,394.  
FILING DATE: 28-JUNE-2002  
CLASSIFICATION: -  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/09/496,398  
FILING DATE: 02-FEB-2000  
CLASSIFICATION:  
APPLICATION NUMBER: US 08/478,097  
FILING DATE: 07-JUN-1995  
CLASSIFICATION:  
ATTORNEY/AGENT INFORMATION:  
NAME: PITCHER, EDMUND R  
REGISTRATION NUMBER: 27,829  
REFERENCE/DOCKET NUMBER: STK-059CN  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 617-248-7000  
TELEFAX: 617-248-7100  
SEQUENCE CHARACTERISTICS:  
LENGTH: 98 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
FEATURE:

RESULT 6  
US-09-754-831A-48  
Sequence 48, Application US/09754831A  
Publication No. US2003022345A1  
GENERAL INFORMATION:  
APPLICANT: Oppermann, Herman  
APPLICANT: Kuberasampath, Thangavel  
APPLICANT: Rueger, David  
APPLICANT: Ozkaynak, Engin  
TITLE OF INVENTION: Osteogenic Devices  
FILE REFERENCE: STK-008CN  
CURRENT APPLICATION NUMBER: US/09/754,831A  
PRIORITY APPLICATION NUMBER: US 08/375,901  
PRIOR FILING DATE: 1995-01-20  
PRIOR APPLICATION NUMBER: US 08/145,812  
PRIOR FILING DATE: 1993-11-01  
PRIOR APPLICATION NUMBER: US 07/995,345  
PRIOR FILING DATE: 1992-12-22  
PRIOR APPLICATION NUMBER: US 07/315,342  
PRIOR FILING DATE: 1989-02-23  
PRIOR APPLICATION NUMBER: US 07/232,630  
PRIOR FILING DATE: 1988-08-15  
PRIOR APPLICATION NUMBER: US 07/179,406  
NUMBER OF SEQ ID NOS: 72  
SOFTWARE: PatentIn version 3.0  
SEQ ID NO: 48  
LENGTH: 99  
TYPE: PRT  
ORGANISM: Artificial Sequence  
FEATURE:  
OTHER INFORMATION: TGF-beta-1  
US-09-754-831A-48  
Query Match 100.0%; Score 96; DB 10; Length 99;  
Best Local Similarity 100.0%; Pred. No. 1.2e-05;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 HANFCIGPCPYIWSL 15  
Db 26 HANFCIGPCPYIWSL 40

RESULT 7  
US-10-671-317-48  
Sequence 48, Application US/10671317  
Publication No. US2005054825A1  
GENERAL INFORMATION:  
APPLICANT: Oppermann, Herman  
APPLICANT: Kuberasampath, Thangavel  
APPLICANT: Rueger, David  
APPLICANT: Ozkaynak, Engin  
TITLE OF INVENTION: Osteogenic Devices  
FILE REFERENCE: STK-010C3  
CURRENT APPLICATION NUMBER: US/10/671,317  
CURRENT FILING DATE: 2003-09-25  
PRIOR APPLICATION NUMBER: US 09/956,582  
PRIOR FILING DATE: 2001-09-19

PRIOR APPLICATION NUMBER: US 09/074,299  
; PRIOR FILING DATE: 1998-05-07  
; PRIOR APPLICATION NUMBER: US 08/417,071  
; PRIOR FILING DATE: 1995-04-04  
; PRIOR APPLICATION NUMBER: US 08/145,812  
; PRIOR FILING DATE: 1993-11-01  
; PRIOR APPLICATION NUMBER: US 07/995,345  
; PRIOR FILING DATE: 1993-12-22  
; PRIOR APPLICATION NUMBER: US 07/315,342  
; PRIOR FILING DATE: 1989-02-23  
; PRIOR APPLICATION NUMBER: US 07/232,630  
; PRIOR FILING DATE: 1988-08-15  
; PRIOR APPLICATION NUMBER: US 07/179,406  
; PRIOR FILING DATE: 1988-04-08  
; NUMBER OF SEQ ID NOS: 72  
; SOFTWARE: PatentIn version 3.3  
; SEQ ID NO: 48  
; LENGTH: 99  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: TGF-beta-1  
US-10-671-317-8

RESULT 8  
US-09-813-271B-2  
; Sequence 2, Application US/09813271B  
; Patent No. US20020115834A1  
; GENERAL INFORMATION:  
; APPLICANT: (A) Nico Cerletti  
; TITLE OF INVENTION: New process for the production of  
; biologically active protein  
; NUMBER OF SEQUENCES: 13  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: NO. US20020115834A1artis Patent Department  
; STREET: 564 Morris Avenue  
; CITY: Summit  
; STATE: New Jersey  
; COUNTRY: USA  
; ZIP: 07901  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)  
CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/813,271B  
; FILING DATE: 20-Mar-2001  
; PRIORITY APPLICATION DATA:  
; APPLICATION NUMBER: PCT/EP95/02719  
; FILING DATE: 12-Jul-95  
; APPLICATION NUMBER: EPO 94810439.3  
; FILING DATE: 25-Jul-94  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Pfleiffer, Heina J.  
; REGISTRATION NUMBER: 22440  
; REFERENCE/DOCKET NUMBER: 4-20039C/C1CL/USN  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (908) 522-6940  
; TELEFAX: (908) 522-6955  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 112 amino acids

RESULT 9  
US-10-366-345-54  
; Sequence 54, Application US/10366345  
; Publication No. US20030224501A1  
; GENERAL INFORMATION:  
; APPLICANT: Young, et al.  
; TITLE OF INVENTION: Bone Morphogenetic Protein Polynucleotides and  
; FILE REFERENCE: PT-89  
; CURRENT APPLICATION NUMBER: US/10/366,345  
; CURRENT FILING DATE: 2003-02-14  
; NUMBER OF SEQ ID NOS: 77  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO: 54  
; LENGTH: 112  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-10-366-345-54

RESULT 10  
US-10-872-198-104  
; Sequence 104, Application US/0872198  
; Publication No. US2005002897A1  
; GENERAL INFORMATION:  
; APPLICANT: Ulrich RAUPTS  
; APPLICANT: Andre KOLTERMANN  
; APPLICANT: Andreas SCHEIDIG  
; APPLICANT: Christian VÖTSMEIER  
; APPLICANT: Ulrich Kettling  
; TITLE OF INVENTION: NEW BIOLOGICAL ENTITIES AND USE THEREOF  
; FILE REFERENCE: 04156.000204  
; CURRENT APPLICATION NUMBER: US/10/872,198  
; CURRENT FILING DATE: 2004-06-18  
; PRIOR APPLICATION NUMBER: 60/543,518  
; PRIOR FILING DATE: 2004-02-11  
; PRIOR APPLICATION NUMBER: 60/524,960  
; PRIOR FILING DATE: 2003-11-25  
; PRIOR APPLICATION NUMBER: EP 04003058  
; PRIOR FILING DATE: 2004-02-11  
; PRIOR APPLICATION NUMBER: EP 03025871  
; PRIOR FILING DATE: 2003-11-11  
; PRIOR APPLICATION NUMBER: EP 03025851  
; PRIOR FILING DATE: 2003-11-10  
; PRIOR APPLICATION NUMBER: EP 0301819  
; PRIOR FILING DATE: 2003-06-18  
; NUMBER OF SEQ ID NOS: 149  
; SOFTWARE: PatentIn version 3.1  
; SEQ ID NO: 104  
; LENGTH: 112

;

;

TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-872-198-104

Query Match Best Local Similarity 100.0%; Score 96; DB 17; Length 112;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HANFCIGPCPYIWSL 15  
Db 40 HANFCIGPCPYIWSL 54

RESULT 11  
US-09-813-398-13  
Sequence 13, Application US/09813398  
Patent No. US20030169292A1

GENERAL INFORMATION:  
APPLICANT: Bruce D. Weintraub  
APPLICANT: Mariusz W. Szkudlinski  
TITLE OF INVENTION: CISTINE KNOT GROWTH FACTOR MUTANTS  
FILE REFERENCE: UOFMD 003C1

CURRENT APPLICATION NUMBER: US/09/813,398  
CURRENT FILING DATE: 2001-03-20  
PRIOR APPLICATION NUMBER: PCT/US99/05908  
PRIOR FILING DATE: 1999-03-19  
PRIOR APPLICATION NUMBER: PCT/US98/19772  
PRIOR FILING DATE: 1998-09-22  
NUMBER OF SEQ ID NOS: 41  
SOFTWARE: FastSEQ for Windows Version 4.0  
SEQ ID NO 13  
LENGTH: 113  
TYPE: PRT  
ORGANISM: HOMO SAPIEN  
US-09-813-398-13

Query Match Best Local Similarity 100.0%; Score 96; DB 9; Length 113;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HANFCIGPCPYIWSL 15  
Db 41 HANFCIGPCPYIWSL 55

RESULT 12  
US-10-826-324-13  
Sequence 13, Application US/10826324  
Publication No. US20040265972A1

GENERAL INFORMATION:  
APPLICANT: Bruce D. Weintraub  
APPLICANT: Mariusz W. Szkudlinski  
TITLE OF INVENTION: CISTINE KNOT GROWTH FACTOR MUTANTS  
FILE REFERENCE: UOFMD 003C1

CURRENT APPLICATION NUMBER: US/10/826,324  
CURRENT FILING DATE: 2004-04-19  
PRIOR APPLICATION NUMBER: US/09/813,398  
PRIOR FILING DATE: 2001-01-20  
PRIOR APPLICATION NUMBER: PCT/US99/05908  
PRIOR FILING DATE: 1999-03-19  
PRIOR APPLICATION NUMBER: PCT/US98/19772  
PRIOR FILING DATE: 1998-09-22  
NUMBER OF SEQ ID NOS: 41  
SOFTWARE: FastSEQ for Windows Version 4.0  
SEQ ID NO 13  
LENGTH: 113  
TYPE: PRT  
ORGANISM: HOMO SAPIEN  
US-10-826-324-13

Query Match Best Local Similarity 100.0%; Score 96; DB 9; Length 114;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HANFCIGPCPYIWSL 15  
Db 42 HANFCIGPCPYIWSL 56

RESULT 13  
US-09-389-705-23  
Sequence 23, Application US/09389705  
Publication No. US2001001509A1

GENERAL INFORMATION:  
APPLICANT: JOHNS HOPKINS UNIVERSITY  
TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-3  
NUMBER OF SEQUENCES: 29  
CORRESPONDENCE ADDRESS:  
STREET: 1880 CENTURY PARK EAST, FIFTH FLOOR  
CITY: LOS ANGELES  
STATE: CALIFORNIA  
COUNTRY: US  
ZIP: 90067

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/389,705  
FILING DATE: 03-Sep-1999  
CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 09/153,733  
FILING DATE: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: WETHERELL, JR., JOHN R.  
REGISTRATION NUMBER: 31,678  
REFERENCE/DOCKET NUMBER: FD2279 PCT

TELECOMMUNICATION INFORMATION:  
TELEPHONE: (619) 455-5100  
TELEFAX: (619) 455-5110

INFORMATION FOR SEQ ID NO: 23:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 114 amino acids  
TYPE:mino acid  
STRANDEDNESS: single  
TOPOGY: linear  
MOLECULE TYPE: protein  
IMMEDIATE SOURCE:  
CLONE: TGF-beta 1

FEATURE:  
NAME/KEY: Protein  
LOCATION: 1..114  
SEQUENCE DESCRIPTION: SEQ ID NO: 23:  
US-09-389-705-23

Query Match Best Local Similarity 100.0%; Score 96; DB 9; Length 114;  
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HANFCIGPCPYIWSL 15  
Db 42 HANFCIGPCPYIWSL 56

RESULT 14  
US-09-813-459-22  
Sequence 22, Application US/09813459  
Patent No. US20030107369A1

GENERAL INFORMATION:  
APPLICANT: Lee, Se-Jin  
APPLICANT: Cunningham, No. US20020107369A1

TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-10  
 NUMBER OF SEQUENCES: 26  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Spansley, Horn, Jubas & Lubitz  
 STREET: 1880 Century Park East, Suite 500  
 CITY: Los Angeles  
 STATE: California  
 COUNTRY: USA  
 ZIP: 90067

COMPUTER READABLE FORM:

MEDIUM TYPE: FLOPPY disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.25  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/813,459  
 FILING DATE: 20-Mar-2001  
 CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/624,635  
 FILING DATE: <Unknown>  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Wetherell, Jr., Ph.D., John R.,  
 REGISTRATION NUMBER: 31,678

REFERENCE DOCKET NUMBER: PD-3054

TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (619) 455-5100  
 TELEX/FAX: (619) 455-5110

INFORMATION FOR SEQ ID NO: 22:

SEQUENCE CHARACTERISTICS:

LENGTH: 114 amino acids  
 TYPE: amino acid  
 STRANDEDNESS: Single  
 TOPOLOGY: Linear

MOLECULE TYPE: Protein

IMMEDIATE SOURCE:

FEATURE:  
 NAME/KEY: Protein  
 LOCATION: 1..114

SEQUENCE DESCRIPTION: SEQ ID NO: 22:

US-09-813-459-22

Query Match 100.0%; Score 96; DB 13; Length 114;  
 Best Local Similarity 100.0%; Prd. No. 1.3e-05;  
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Organism: Homo sapiens  
 US-10-115-406-21

Query	Db
1 HANFCIGPCPYIWSL 15	42 HANFCIGPCPYIWSL 56

Search completed: June 14, 2005, 16:14:52  
 Job time : 79.4615 secs

RESULT 15  
 US-10-115-406-21  
 Sequence 21, Application US/10115406  
 Publication No. US20020127612A1

GENERAL INFORMATION:

APPLICANT: THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE  
 TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-9  
 FILE REFERENCE: JHU1190-3  
 CURRENT APPLICATION NUMBER: US/10/115,406  
 CURRENT FILING DATE: 2002-04-02  
 PRIOR APPLICATION NUMBER: 09/301,520  
 PRIOR FILING DATE: 1999-04-28  
 PRIOR APPLICATION NUMBER: US 09/172,062  
 PRIOR FILING DATE: 1998-10-13  
 PRIOR APPLICATION NUMBER: US 08/491,835  
 PRIOR FILING DATE: 1995-10-23  
 PRIOR APPLICATION NUMBER: PCT/US94/00685  
 PRIOR FILING DATE: 1994-01-12  
 PRIOR APPLICATION NUMBER: US 08/003,303  
 PRIOR FILING DATE: 1993-01-12

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OM protein - protein search, using sw model.  
Run on: November 14, 2004, 12:54:46 ; Search time 136 Seconds  
Sequence: 31,219 Million cell updates/sec

Scoring table: BLOSUM62  
Gapopen 10.0 , Gapext 0.5

Searched: 1568699 seqs, 353919137 residues  
Perfect score: 63  
Sequence: 1 TSLDATMWTMM 12

Total number of hits satisfying chosen parameters: 199616

Minimum DB seq length: 0  
Maximum DB seq length: 12

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database:: Published Applications AA:  
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4: /cgn2\_6/prodata/1/pubbaa/US07\_PUBCOMB.pep:•  
5: /cgn2\_6/prodata/1/pubbaa/US07\_NEW\_PUB.pep:•  
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9: /cgn2\_6/prodata/1/pubbaa/US09C\_PUBCOMB.pep:•  
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11: /cgn2\_6/prodata/1/pubbaa/US10C\_PUBCOMB.pep:•  
12: /cgn2\_6/prodata/1/pubbaa/US10\_PUBCOMB.pep:•  
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Pred. No. 19 is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

**SUMMARIES**

Result No.	Score	Query Match Length	DB ID	Description
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2	29	46.0	7 9	US-09-758-128-44
3	29	46.0	7 9	US-09-758-426-41
4	29	46.0	7 9	US-09-758-426-44
5	29	46.0	7 9	US-09-758-198-41
6	29	46.0	7 9	US-09-758-198-44
7	29	46.0	7 10	US-09-661-661-41
8	29	46.0	7 10	US-09-863-661-44
9	27	42.9	10 14	US-10-062-102A-642
10	27	42.9	10 14	US-10-005-480B-642
11	26	41.3	9 15	US-10-182-352A-605
12	25	39.7	8 14	US-10-190-082-602
13	25	39.7	9 14	US-10-357-935-20

**ALIGNMENTS**

RESULT 1  
US-09-758-128-41  
; Sequence 41, Application US/09758128  
; Patent No. US2002010187A1  
; GENERAL INFORMATION:  
; APPLICANT: KINGSTON, David J.  
; APPLICANT: GERMANY, No. US2002010187A1  
; APPLICANT: WESTBROOK, Simon L.  
; TITLE OF INVENTION: MODULATING THE ACTIVITY OF HORMONES OR THEIR RECEPTORS  
; TITLE OF INVENTION: - PEPTIDES, ANTIBODIES, VACCINES AND USES THEREOF  
; FILE REFERENCE: 016786/0214  
; CURRENT FILING DATE: 2001-01-12  
; PRIOR APPLICATION NUMBER: 09/194,218  
; PRIOR FILING DATE: 1998-02-05  
; PRIOR APPLICATION NUMBER: AU P/N9990  
; NUMBER OF SEQ ID NOS: 58  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO: 41  
; LENGTH: 7  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
US-09-758-128-41

Query Match Score 46.0%; DB 9; Length 7;  
Best Local Similarity 85.7%; Pred. No. 1.4e+06;  
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qry 1 TSLDATM 7 |||||:  
Db 1 TSLDATV 7

RESULT 2  
US-09-758-128-41

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GenCore version 5.1.6  
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## Om protein - protein search, using sw model

Run on: June 14, 2005, 15:51:20 ; Search time 73.2308 Seconds

(Without alignments)  
73.285 Million cell updates/sec

Title:	US-09-831-253F-2
Perfect score:	89
Sequence:	1 FCLGPPCPYIWSLDT 14
Scoring table:	BLOSUM62
Gapop 10.0 , Gapext: 0.5	
Searched:	1710399 seqs, 38333425 residues
Total number of hits satisfying chosen parameters:	1710399
Minimum DB seq length:	0
Maximum DB seq length:	200000000
Post-processing:	Minimum Match 0% Maximum Match 100% Listing first 45 summaries
Database :	Published Applications AA:*
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2:	/cgn2_6/prodata/2/pubpaas/PCT1_NEW_PUB_pep:*
3:	/cgn2_6/prodata/2/pubpaas/US06_PUBCOMB_pep:*
4:	/cgn2_6/prodata/2/pubpaas/US05_PUBCOMB_pep:*
5:	/cgn2_6/prodata/2/pubpaas/US07_NEW_PUB_pep:*
6:	/cgn2_6/prodata/2/pubpaas/PCT15_PUBCOMB_pep:*
7:	/cgn2_6/prodata/2/pubpaas/US08_PUBCOMB_pep:*
8:	/cgn2_6/prodata/2/pubpaas/US09_PUBCOMB_pep:*
9:	/cgn2_6/prodata/2/pubpaas/US09C_PUBCOMB_pep:*
10:	/cgn2_6/prodata/2/pubpaas/US09_PUBCOMB_pep:*
11:	/cgn2_6/prodata/2/pubpaas/US09_PUBCOMB_pep:*
12:	/cgn2_6/prodata/2/pubpaas/US09_PUBCOMB_pep:*
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14:	/cgn2_6/prodata/2/pubpaas/US10B_PUBCOMB_pep:*
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17:	/cgn2_6/prodata/2/pubpaas/US10E_PUBCOMB_pep:*
18:	/cgn2_6/prodata/2/pubpaas/US10F_PUBCOMB_pep:*
19:	/cgn2_6/prodata/2/pubpaas/US11A_PUBCOMB_pep:*
20:	/cgn2_6/prodata/2/pubpaas/US11B_PUBCOMB_pep:*
21:	/cgn2_6/prodata/2/pubpaas/US16_PUBCOMB_pep:*
22:	/cgn2_6/prodata/2/pubpaas/US20_PUBCOMB_pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query	% Match	Length	DB ID	Description	ALIGNMENTS
1	89	100.0	51	9	US-09-864-761-47871	Sequence 47871, A	Sequence 22, Appl
2	89	100.0	60	10	US-09-864-761-47871	Sequence 122, App	Sequence 21, Appl
3	89	100.0	60	16	US-10-812-642-122	Sequence 122, App	Sequence 23, Appl
4	89	100.0	70	9	US-09-848-664-9	Sequence 9, Appl	Sequence 21, Appl
5	89	100.0	98	14	US-10-187-394-1	Sequence 1, Appl	Sequence 47, Appl
6	89	100.0	112	9	US-09-813-398-13	Sequence 2, Appl	Sequence 29, Appl
7	89	100.0	112	15	US-10-366-345-54	Sequence 54, Appl	Sequence 47, Appl
8	89	100.0	112	17	US-10-872-198-104	Sequence 104, Appl	Sequence 19, Appl
9	89	100.0	113	9	US-09-813-398-13	Sequence 13, Appl	Sequence 19, Appl
10	89	100.0	113	16	US-10-826-324-13	Sequence 13, Appl	Sequence 8, Appl
11	89	100.0	114	9	US-09-389-705-23	Sequence 23, Appl	Sequence 52, Appl

RESULT 1  
US-09-864-761-47871  
; Sequence 47871, Application US/09864761  
; Patent No. US20020048763A1  
; Sequence 47871, Application US/09864761  
; General Information:  
; APPLICANT: Penn, Sharron G.  
; APPLICANT: Rank, David R.  
; APPLICANT: Hanzel, David K.  
; APPLICANT: Chen, Wensheng  
; TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR  
; TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY  
; TITLE REFERENCE: Aemotica-X-1  
; CURRENT APPLICATION NUMBER: US/09/864,761  
; CURRENT FILING DATE: 2001-05-23  
; PRIOR APPLICATION NUMBER: US 09/632,366  
; PRIOR FILING DATE: 2000-02-04  
; PRIOR APPLICATION NUMBER: US 60/207,456  
; PRIOR FILING DATE: 2000-05-26  
; PRIOR APPLICATION NUMBER: US 09/180,312  
; PRIOR FILING DATE: 2000-09-03  
; PRIOR APPLICATION NUMBER: GB 24263,6  
; PRIOR FILING DATE: 2000-10-04  
; PRIOR APPLICATION NUMBER: US 60/236,359  
; PRIOR FILING DATE: 2000-09-27  
; PRIOR APPLICATION NUMBER: PCT/US01/00666  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: PCT/US01/00667  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: PCT/US01/00664  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: PCT/US01/00669  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: PCT/US01/00665  
; PRIOR FILING DATE: 2001-01-30

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; PRIOR APPLICATION NUMBER: PCT/US01/00668
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00663
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00662
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00661
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: PCT/US01/00670
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: US 60/234,687
; PRIOR FILING DATE: 2000-09-21
; PRIOR APPLICATION NUMBER: US 09/608,408
; PRIOR FILING DATE: 2000-06-30
; PRIOR APPLICATION NUMBER: US 09/774,203
; PRIOR FILING DATE: 2001-01-29
; NUMBER OF SEQ ID NOS: 49117
; SOFTWARE: Annonax Sequence Listing Engine vers. 1.1
SEQ ID NO 47871
LENGTH: 51
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: Sequence
US-09-791-301-122
Query Match 100.0%; Score 89; DB 10; Length 60;
Best Local Similarity 100.0%; Pred. No. 3.8e-05;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 FCLGPGCPYIWSLDT 14
Db 43 FCLGPGCPYIWSLDT 56
RESULT 3
US-10-812-642-122
Sequence 122, Application US/10812642
Publication No. US20040258656A1
GENERAL INFORMATION:
APPLICANT: Pagratis, Nikos
APPLICANT: Lochrie, Michael
APPLICANT: Gold, Larry
TITLE OF INVENTION: High Affinity TGFBeta Nucleic Acid Ligands and
TITLE OF INVENTION: Inhibitors
FILE REFERENCE: NXB7
CURRENT APPLICATION NUMBER: US/10/812,642
CURRENT FILING DATE: 2004-03-30
PRIOR APPLICATION NUMBER: US/09/363,939A
PRIOR FILING DATE: 1999-07-29
PRIOR APPLICATION NUMBER: 09/046,247
PRIOR FILING DATE: 1998-03-23
PRIOR APPLICATION NUMBER: 08/458,424
PRIOR FILING DATE: 1995-06-02
PRIOR APPLICATION NUMBER: 07/714,131
PRIOR FILING DATE: 1991-06-10
PRIOR APPLICATION NUMBER: 07/931,473
PRIOR FILING DATE: 1992-08-17
PRIOR APPLICATION NUMBER: 07/964,624
PRIOR FILING DATE: 1992-10-21
PRIOR APPLICATION NUMBER: 08/117,991
PRIOR FILING DATE: 1993-09-08
PRIOR APPLICATION NUMBER: 07/536,428
PRIOR FILING DATE: 1990-06-11
NUMBER OF SEQ ID NOS: 215
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 122
LENGTH: 60
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic
OTHER INFORMATION: Sequence
US-10-812-642-122
Query Match 100.0%; Score 89; DB 16; Length 60;
Best Local Similarity 100.0%; Pred. No. 3.8e-05;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 FCLGPGCPYIWSLDT 14
Db 43 FCLGPGCPYIWSLDT 56
RESULT 4
US-09-848-64-9
Sequence 9, Application US/09848664
Patent No. US2003014614A1
GENERAL INFORMATION:
APPLICANT: Sakimura-Elbert, Shelly E.
APPLICANT: Hubbell, Jeffrey A.
SEQ ID NO 122

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GENERAL INFORMATION:  
; APPLICANT: Young, et al.  
; TITLE OF INVENTION: Bone Morphogenetic Protein Polynucleotides, Polypeptides and  
; TITLE OF INVENTION: Antibodies  
; FILE REFERENCE: PTI89  
; CURRENT APPLICATION NUMBER: US/10/366,345  
; CURRENT FILING DATE: 2003-02-14  
; NUMBER OF SEQ ID NOS: 77  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 54  
; LENGTH: 112  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; US-10-366-345-54

Query Match 100.0%; Score 89; DB 15; Length 112;  
Best Local Similarity 100.0%; Pred. No. 6.5e-05; Mismatches 0; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FCUGPCPYWSLDT 14  
Db 43 FCUGPCPYWSLDT 56

RESULT 8  
US-10-872-198-104  
Sequence 104, Application US/0872198  
Publication No. US20050002897A1

GENERAL INFORMATION:  
; APPLICANT: Andre KOITERMANN  
; APPLICANT: Ulrich HAUPPTS  
; APPLICANT: Andreas SCHEIDIG  
; APPLICANT: Christian VOETSMIEER  
; APPLICANT: Ulrich Kettling  
TITLE OF INVENTION: NEW BIOLOGICAL ENTITIES AND USE THEREOF  
FILE REFERENCE: 04156.0002U4  
CURRENT APPLICATION NUMBER: US/10/872,198  
CURRENT FILING DATE: 2004-06-18  
PRIOR APPLICATION NUMBER: 60/543,518  
PRIOR FILING DATE: 2004-02-11  
PRIOR APPLICATION NUMBER: 60/524,960  
PRIOR FILING DATE: 2003-11-25  
PRIOR APPLICATION NUMBER: EP 04003058  
PRIOR FILING DATE: 2004-02-11  
PRIOR APPLICATION NUMBER: EP 03025871  
PRIOR FILING DATE: 2003-11-11  
PRIOR APPLICATION NUMBER: EP 03025851  
PRIOR FILING DATE: 2003-11-10  
PRIOR APPLICATION NUMBER: EP 03013819  
PRIOR FILING DATE: 2003-06-18  
NUMBER OF SEQ ID NOS: 149  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 104  
LENGTH: 112  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-872-198-104

Query Match 100.0%; Score 89; DB 17; Length 112;  
Best Local Similarity 100.0%; Pred. No. 6.5e-05; Mismatches 0; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FCUGPCPYWSLDT 14  
Db 43 FCUGPCPYWSLDT 56

RESULT 9  
US-09-813-398-13  
Sequence 13, Application US/09813398  
Patent No. US20020169292A1  
GENERAL INFORMATION:  
; APPLICANT: Bruce D. Weintraub

RESULT 10  
US-10-826-324-13  
Sequence 13, Application US/10826324  
Publication No. US20040265972A1

GENERAL INFORMATION:  
; APPLICANT: Bruce D. Weintraub  
; APPLICANT: Mariusz W. Szkludlinski  
; APPLICANT: University of Maryland  
TITLE OF INVENTION: CYSTEINE KNOT GROWTH FACTOR MUTANTS  
FILE REFERENCE: U00FD.003C1  
CURRENT APPLICATION NUMBER: US/10/826,324  
CURRENT FILING DATE: 2004-04-19  
PRIOR APPLICATION NUMBER: US/09/813,398  
PRIOR FILING DATE: 2001-03-20  
PRIOR APPLICATION NUMBER: PCT/US99/05908  
PRIOR FILING DATE: 1999-03-19  
PRIOR APPLICATION NUMBER: PCT/US98/19772  
PRIOR FILING DATE: 1998-09-22  
NUMBER OF SEQ ID NOS: 41  
SOFTWARE: PastSeq for Windows Version 4.0  
SEQ ID NO 13  
LENGTH: 113  
TYPE: PRT  
ORGANISM: HOMO SAPIEN  
US-10-826-324-13

Query Match 100.0%; Score 89; DB 16; Length 113;  
Best Local Similarity 100.0%; Pred. No. 6.5e-05; Mismatches 0; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FCUGPCPYWSLDT 14  
Db 44 FCUGPCPYWSLDT 57

RESULT 11  
US-09-389-705-23  
Sequence 23, Application US/09389705  
Publication No. US20010018509A1

GENERAL INFORMATION:  
; APPLICANT: Johns Hopkins University  
; TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-3  
; NUMBER OF SEQUENCES: 29  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: SPENSLEY HORN JUBAS & LUBITZ  
; STREET: 1880 CENTURY PARK EAST, FIFTH FLOOR

CITY: LOS ANGELES  
STATE: CALIFORNIA  
COUNTRY: US  
ZIP: 90067

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/389,705  
FILING DATE: 03-Sep-1999  
CLASSIFICATION: <Unknown>  
PRIORITY APPLICATION DATA:  
APPLICATION NUMBER: 09/153,733  
FILING DATE: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: WETHERELL, JR., Ph.D., John R.  
REGISTRATION NUMBER: 31,678  
REFERENCE/DOCKET NUMBER: FD2279 PCT

TELECOMMUNICATION INFORMATION:  
TELEPHONE: (619) 455-5100  
TELEFAX: (619) 455-5100  
TELEGRAM: (619) 455-5110

INFORMATION FOR SEQ ID NO: 23:

SEQUENCE CHARACTERISTICS:  
LENGTH: 114 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: Linear  
MOLECULE TYPE: protein  
IMMEDIATE SOURCE:  
CLONE: TGF-beta 1

FEATURE:  
NAME/KEY: Protein  
LOCATION: 1..114  
SEQUENCE DESCRIPTION: SEQ ID NO: 23:  
US-09-389-705-23

Query Match 100.0%; Score 89; DB 9; Length 114;  
Best Local Similarity 100.0%; Pred. No. 6.6e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	Db	Sequence
1	45	FCLGCPYIWSLDT 14
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RESULT 12  
US-09-813-459-22

Query Match 100.0%; Score 89; DB 9; Length 114;  
Best Local Similarity 100.0%; Pred. No. 6.6e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	Db	Sequence
1	45	FCLGCPYIWSLDT 14
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RESULT 13  
US-10-115-406-21

Sequence 21, Application US/10115406  
Publication No. US20020127612A1

GENERAL INFORMATION:

APPLICANT: THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE  
TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-9  
FILE REFERENCE: JHU1190-3

CURRENT APPLICATION NUMBER: US/10/115,406  
CURRENT FILING DATE: 2002-04-02  
PRIOR APPLICATION NUMBER: 09/301,520  
PRIOR FILING DATE: 1999-04-28  
PRIOR APPLICATION NUMBER: US 09/172,062  
PRIOR FILING DATE: 1998-10-13  
PRIOR APPLICATION NUMBER: US 08/491,835  
PRIOR FILING DATE: 1995-10-23  
PRIOR APPLICATION NUMBER: PCT/US94/00685  
PRIOR FILING DATE: 1994-01-12  
PRIOR APPLICATION NUMBER: US 08/003,303  
PRIOR FILING DATE: 1993-01-12  
PRIOR APPLICATION NUMBER: US 09/172,062  
PRIOR FILING DATE: 1998-10-13  
NUMBER OF SEQ ID NOS: 28  
SOFTWARE: PatentIn version 3.0  
SEQ ID NO: 21  
LENGTH: 114  
TYPE: PRT  
ORGANISM: Homo sapiens

US-10-115-406-21

Query Match 100.0%; Score 89; DB 13; Length 114;  
Best Local Similarity 100.0%; Pred. No. 6.6e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	Db	Sequence
1	45	FCLGCPYIWSLDT 14
45	45	FCLGCPYIWSLDT 58

RESULT 14  
US-10-154-333-23

PRIOR APPLICATION DATA:

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/813,459  
FILING DATE: 20-Mar-2001  
CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

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; Sequence 23, Application US/10154333
; Publication No. US200301096841
; GENERAL INFORMATION:
; APPLICANT: JOHNS HOPKINS UNIVERSITY
; TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-3
; NUMBER OF SEQUENCES: 29
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: SPENSLEY HORN JUBAS & LUBITZ
; STREET: 1880 CENTURY PARK EAST, FIFTH FLOOR
; CITY: LOS ANGELES
; STATE: CALIFORNIA
; COUNTRY: US
; ZIP: 90067
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/10/154,333
; FILING DATE: 21-May-2002
; CLASSIFICATION: <Unknown>
; PRIORITY DATA:
; APPLICATION NUMBER: US/09/389,705
; FILING DATE: 03-Sep-1999
; APPLICATION NUMBER: 09/153,733
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: WETHERELL, JR. Ph.D., JOHN R.
; REGISTRATION NUMBER: 31,678
; REFERENCE DOCKET NUMBER: FD2279 PCT
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (619) 455-5100
; TELEFAX: (619) 455-5110
; INFORMATION FOR SEQ ID NO: 23:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 114 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; IMMEDIATE SOURCE:
; CLONE: TGF-beta 1
; FEATURE:
; NAME/KEY: Protein
; LOCATION: 1..114
; SEQUENCE DESCRIPTION: SEQ ID NO: 23:
; US-10-154-333-23

Query Match          100.0%; Score 89; DB 14; Length 114;
Best Local Similarity 100.0%; Pred. No. 6.6e-05; Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

; Search completed: June 14, 2005, 16:14:52
; Job time : 73.2308 SECs
Qy      1 FCLGRCPYIWSLDT 14
Qy      45 FCLGRCPYIWSLDT 58
Db      45 FCLGRCPYIWSLDT 58

RESULT 15
US-10-704-223-21
; Sequence 21, Application US/10704223
; Publication No. US20040152143A1
; GENERAL INFORMATION:
; APPLICANT: THE JOHNS HOPKINS UNIVERSITY
; TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-9
; FILE REFERENCE: JHU1190-7
; CURRENT APPLICATION NUMBER: US/10/704,223
; CURRENT FILING DATE: 2003-11-07
; PRIOR APPLICATION NUMBER: US 10/115,406
; PRIOR FILING DATE: 2002-04-02
; PRIOR APPLICATION NUMBER: US 09/301,520
; PRIOR FILING DATE: 1999-04-28

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Run on: June 14, 2005, 15:29:15 ; Search time 80.2308 Seconds  
(Without alignments)  
67.488 Million cell updates/sec

OM protein - Protein search, using sw model  
Title: US-09-831-253F-2  
Perfect score: 89

Sequence: 1 FCLGPPCPYIWSLDT 14  
Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues  
Total number of Hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_16Dec04:  
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2: geneseqp1990s: \*  
3: geneseqp2000s: \*  
4: geneseqp2001s: \*  
5: geneseqp2002s: \*  
6: geneseqp2003as: \*  
7: geneseqp2003bs: \*  
8: geneseqp2004as: \*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result No.	Score	Query Match Length	DB ID	Description	ALIGMENTS
1	89	100.0	14	AAY92966	26 89 100.0 112 2 AAR2134
2	89	100.0	14	AAY92966	27 89 100.0 112 2 AAR4263
3	89	100.0	21	AAY92982	28 89 100.0 112 2 AAR3643
4	89	100.0	23	AAY92983	29 89 100.0 112 2 AAR3645
5	89	100.0	23	AAY92984	30 89 100.0 112 2 AAR42311
6	89	100.0	25	ABU08659	31 89 100.0 112 2 AAR92773
7	89	100.0	25	AEM79533	32 89 100.0 112 2 AAR91956
8	89	100.0	50	AAR9028	33 89 100.0 112 2 AAW08173
9	89	100.0	51	AAR04075	34 89 100.0 112 2 AAW781
10	89	100.0	51	AATW788	35 89 100.0 112 2 AAW9701
11	89	100.0	51	ABB43879	36 89 100.0 112 2 AAY08299
12	89	100.0	51	AMR37799	37 89 100.0 112 2 AAW84207
13	89	100.0	51	AMR77605	38 89 100.0 112 3 AAY67950
14	89	100.0	51	ABG46640	39 89 100.0 112 3 AAY92010
15	89	100.0	60	ABG6640	40 89 100.0 112 4 AAB35937
16	89	100.0	62	AAB6885	41 89 100.0 112 5 AAM51939
17	89	100.0	65	AAB0331	42 89 100.0 112 6 ABU08656
18	89	100.0	98	AAR2135	43 89 100.0 112 8 ADH11598
19	89	100.0	98	AAR11942	44 89 100.0 112 8 ABM79530
20	89	100.0	98	AAY16597	45 89 100.0 114 2 AAR39638
21	89	100.0	98	AAY92554	
22	89	100.0	98	AAB0519	
23	89	100.0	112	AAB02785	
24	89	100.0	112	AAR08142	
25	89	100.0	112	AAR04076	
				Aar12402	

Aar22134 PDGF subunit beta; TGF-beta; Transform; Recombina Human TGF  
Aar3263 TGF-beta; Transform; Human tra  
Aar3643 Transform; Human tra  
Aar3645 Transform; Human tra  
Aar42311 Recombina Human TGF  
Aar92773 Human TGF  
Aar91956 Human tra  
Aaw08173 TGF-beta; Human tra  
Aaw781 Human tra  
Aaw9701 The mature Human TGF  
Aay08299 Human gro  
Aaw84207 Transform; Human tra  
Aay67950 Human tra  
Aay92010 Human tra  
Aab35937 TGF-beta; Human TGF  
Aam51939 Human TGF  
Abu08656 Human tra  
Abm79530 Human tra  
Aar39638 Human tra

The invention relates to synthetic Peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-β1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-β1 and/or its receptors. Peptides AAY9245-YY3133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-β1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimetics and/or DNA (or RNA expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis

XX	Sequence 14 AA;	AAY92982
SQ		ID AAY92982 standard; peptide; 21 AA.
Query Match	100.0%; Score 89; DB 3; Length 14;	XX
Best Local Similarity	100.0%; Pred. No. 1e-05;	AC AAY92982;
Matches	14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	XX
Qy	1 FCLGCPYIWSLDT 14	DT 08-NOV-2000 (first entry)
Db	1 FCLGCPYIWSLDT 14	XX Transforming growth factor inhibitory peptide P28.
RESULT 2		XX Hepatotropic; antagonist; transforming growth factor beta1; TGF-b1; liver; competitive inhibition; collagen synthesis stimulation inhibitor; mimotope; cirrhosis.
AAY92946		KW extracellular matrix degradation inhibitor; mimotope; cirrhosis.
ID AAY92946	standard; peptide; 14 AA.	XX Homo sapiens.
XX		XX WO20031135-A1.
AC	AAY92946;	XX 02-JUN-2000.
XX		XX 23-NOV-1999; 99WO-ES000375.
DE	Transforming growth factor inhibitory peptide #2.	XX 24-NOV-1998; 9BES-00002465.
XX		XX (CLEN-) INST CIENTIFICO & TECNOLOGICO NAVARRA.
KW	Hepatotropic; antagonist; transforming growth factor beta1; TGF-b1; liver; competitive inhibition; collagen synthesis stimulation inhibitor; mimotope; cirrhosis.	XX Ezquiero Saenz IJ, Labarte Sagastibelza JJ, Prieto Valtuena J;
KW	extracellular matrix degradation inhibitor; mimotope; cirrhosis.	PT Borras Cuesta F;
OS	Homo sapiens.	XX
XX		DR WPI; 2000-411935/35.
PN	W020031135 A1.	XX
XX	02-JUN-2000.	PT Peptides that antagonize binding of transforming growth factor beta1, useful for treatment of liver disease, especially cirrhosis, are partial sequences of the factor or its receptors.
PP	23-NOV-1999; 99WO-ES000375.	XX Disclosure; Page 24; 86pp; Spanish.
XX		XX The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
PR	24-NOV-1998; 9BES-00002465.	XX Sequence 21 AA;
PR		CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
PA	(CLEN-) INST CIENTIFICO & TECNOLOGICO NAVARRA.	XX Sequence 21 AA;
XX		CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
XX		CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
XX		CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
XX	Sequence 14 AA;	CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
SQ		CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
Query Match	100.0%; Score 89; DB 3; Length 14;	CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
Best Local Similarity	100.0%; Pred. No. 1e-05;	CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
Matches	14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
Qy	1 FCLGCPYIWSLDT 14	CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
Db	1 FCLGCPYIWSLDT 14	CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY92945-Y93133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis
RESULT 4		XX Transforming growth factor inhibitory peptide P29.
AA	AAY92983	XX Hepatotropic; antagonist; transforming growth factor beta1; TGF-b1; liver; competitive inhibition; collagen synthesis stimulation inhibitor; mimotope; cirrhosis.
ID	AAY92983	XX extracellular matrix degradation inhibitor; mimotope; cirrhosis.
XX		XX
AC	AAY92983;	XX
DT	08-NOV-2000 (first entry)	XX
XX		XX
DE	Transforming growth factor inhibitory peptide P29.	XX
XX		XX
KW	Hepatotropic; antagonist; transforming growth factor beta1; TGF-b1; liver; competitive inhibition; collagen synthesis stimulation inhibitor; mimotope; cirrhosis.	XX
KW	extracellular matrix degradation inhibitor; mimotope; cirrhosis.	XX
XX		XX
RESULT 3		XX



CC capable of blocking TGF-beta induced growth inhibition of a cell. The TGF  
 CC beta\_2 and TGF-beta\_1 are also capable of inhibiting specific binding of  
 CC TGF-beta to TGF-beta receptor on a cell. The methods are useful for  
 CC inhibiting specific binding of a TGF-beta to a TGF-beta receptor on a  
 CC cell comprising contacting the cell with a peptide of 10-25 amino acids,  
 CC where: (a) the peptide comprises amino acids 49-58 of a TGF-beta 1 or  
 CC amino acids 49-58 of a TGF-beta 2; and (b) the peptide inhibits the  
 CC specific binding of a TGF-beta to a TGF-beta receptor on a cell. The  
 CC methods are also useful for blocking TGF-beta-induced growth inhibition of  
 CC a cell comprising contacting the cell with a peptide of at least 10  
 CC amino acids, as described above, in particular a mink lung epithelial  
 CC cell. The methods are also useful for blocking TGF-beta-induced growth  
 CC inhibition of a cell comprising contacting the cell with a peptide of at  
 CC least 25 amino acids, where: (a) the peptide comprises amino acids 41-65  
 CC of a TGF-beta 1, or amino acids 41-65 of a TGF-beta 2; and (b) the  
 peptide blocks TGF-beta-induced growth inhibition of the cell. The  
 peptides are useful in inhibiting, ameliorating or reversing the effects  
 CC of TGF-beta and treating diseases such as  
 CC intimal hyperplasia, following angioplasty, tissue fibrosis and  
 CC glomerulonephritis. This is the amino acid sequence of human transforming  
 CC growth factor (TGF)-beta 1 residues 41-65  
 XX

SQ Sequence 25 AA;

QY

Query Match 100.0%; Score 89; DB 6; Length 25;  
 Best Local Similarity 100.0%; Pred. No. 1.7e-05; Mismatches 0; Indels 0; Gaps 0;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 FCLGCPCPYIWSLDT 14  
 Db 3 FCLGCPCPYIWSLDT 16

RESULT 7

ID ABM79533; Standard; peptide; 25 AA.  
 AC ABM79533;  
 XX DT 22-APR-2004 (first entry)  
 XX DE Human transforming growth factor beta peptide.

KW Human; TGF beta; transforming growth factor beta; antagonist;  
 KW cutaneous wound; burn; wound healing; vulnery; nephrotropic;  
 KW ophthalmological; cytostatic; antiinflammatory; hepatotropic; cardiant.  
 OS Homo sapiens.  
 XX PN WO2003093293-A2.

XX PD 13-NOV-2003.

XX FP 15-APR-2003; 2003WO-US011437.

XX PR 29-APR-2002; 2002US-00135946.  
 XX PA (DYSL-) UNIV SAINT LOUIS.

XX PI Huang JS;  
 DR WPI; 2004-042374/04.

XX PT Inhibiting activity of transforming growth factor-beta useful for  
 PT treating wounds, cancer or fibrosis, comprises administering composition  
 PT comprising peptide antagonist of transforming growth factor-beta.

XX PS Claim 4; Fig 5B; Opp; English.  
 CC The present invention relates to a method of inhibiting activity of  
 CC a transforming growth factor-beta (TGF-beta), which comprises administering  
 CC a composition comprising a non-naturally occurring peptide that binds to  
 CC a TGF-beta receptor, blocks the TGF-beta receptor from binding naturally

CC occurring TGF-beta and inhibits the activity of TGF-beta. The method can  
 CC be used for reducing scarring due to wounds, such as burns, scrapes,  
 CC puncture wounds and lacerations, promoting re-epithelialization of a  
 CC wound, reducing the deposition of an extracellular matrix protein in the  
 CC extracellular matrix and treating diseases mediated by TGF-beta activity,  
 CC particularly glomerulonephritis, macular degeneration, intimal  
 CC hyperplasia, cancer, fibrosis (e.g. scar formation, liver cirrhosis,  
 CC kidney fibrosis, cystic fibrosis, lung fibrosis or heart fibrosis) and  
 CC respiratory distress syndrome. The present sequence is a fragment of the  
 CC human TGF beta1 protein.

SQ Sequence 25 AA;

QY

Query Match 100.0%; Score 89; DB 8; Length 25;  
 Best Local Similarity 100.0%; Pred. No. 1.7e-05; Mismatches 0; Indels 0; Gaps 0;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 FCLGCPCPYIWSLDT 14  
 Db 3 FCLGCPCPYIWSLDT 16

RESULT 8

ID AAR0828  
 ID AAR90828 standard; peptide; 50 AA.  
 AC AAR90828;  
 XX DT 25-MAR-2003 (revised)  
 DT 25-JAN-1980 (first entry)  
 XX DB pre-transforming growth factor beta 1 residues 252 to 302.  
 XX KW transforming growth factor beta 1; wound healing; recombinant production.  
 XX OS Homo sapiens.  
 XX PN US5482851-A.  
 XX PD 09-JAN-1996.  
 XX PF 05-NOV-1993; 93US-00147364.  
 XX PR 22-MAR-1985; 85US-00715142.  
 PR 13-MAR-1987; 87US-00025423.  
 PR 04-AUG-1989; 89US-00389929.  
 PR 04-MAR-1992; 92US-00845893.  
 XX PA (GERH ) GENENTECH INC.  
 XX PI Goeddel DV, Deryckx RMA;  
 XX DR WPI; 1996-076891/08.  
 DR N-P8DB; RAT15721.

XX New recombinant human transforming growth factor-beta prods. - produced  
 PT using Chinese hamster ovary cells, for use in diagnostic applications or  
 PT in therapy.

XX PS Example 2; FIG 2; 26PP; English.

XX The transforming growth factor (TGF) beta 1 exon (residues 252 to 302)  
 CC was identified using the "long probe" strategy used previously for TGF-  
 CC alpha. Long oligonucleotides (R1572-23) designed on the basis of the  
 CC partial protein sequence were used as hybridisation probes for the exon  
 CC in a human genomic DNA library. The TGF beta 1 exon was then used as a  
 CC probe for the isolation of TGF beta 1 cDNA (see AAR15270). DNA encoding  
 CC TGF beta 1 is useful for the recombinant production of the protein, which  
 CC is useful in, e.g. wound healing. (Updated on 25-MAR-2003 to correct PP  
 CC field.)

SQ Sequence 50 AA;



PR 04-FEB-2000; 2000US-0180312P.  
 PR 26-MAY-2000; 2000US-0207456P.  
 PR 03-AUG-2000; 2000US-00532366.  
 PR 21-SEP-2000; 2000US-0234687P.  
 PR 27-SEP-2000; 2000US-0236359P.  
 PR 04-OCT-2000; 2000GB-00024263.  
 PA (MOLE-) MOLECULAR DYNAMICS INC.  
 XX  
 PI Penn SG, Hanzel DK, Chen W, Rank DR;  
 XX DR WPI; 2001-483447/52.  
 XX  
 PT Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human fetal liver.  
 XX PS Claim 27; SEQ ID NO 38068; 654pp; English.  
 XX  
 CC The invention relates to a single exon nucleic acid probe for measuring human gene expression in a sample derived from human foetal liver. The single exon nucleic acid probes may be used for predicting, measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a peptide encoded by one of the printed specification, but was obtained in electronic format directly from WIPO at [ftp.wipo.int/pub/published\\_pct\\_sequences](http://ftp.wipo.int/pub/published_pct_sequences)  
 CC  
 CC part of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at [ftp.wipo.int/pub/published\\_pct\\_sequences](http://ftp.wipo.int/pub/published_pct_sequences)  
 CC  
 XX SQ Sequence 51 AA;

Query Match 100.0%; Score 89; DB 4; Length 51;  
 Best Local Similarity 100.0%; Pred. No. 3.2e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 FCLGCPCPYIWSLDT 14  
 Db 34 FCLGCPCPYIWSLDT 47

RESULT 13  
 AAM7605  
 ID AAM77605 Standard; protein; 51 AA.  
 XX  
 AC AAM77605;  
 XX DT 06-NOV-2001 (first entry)  
 XX DE Human bone marrow expressed probe encoded protein SEQ ID NO: 37911.  
 XX KW Human; bone marrow expressed exon; gene expression analysis; probe; microarray; cancer; leukaemia; lymphoma; myeloma.  
 XX OS Homo sapiens.  
 XX PN WO200157276-A2.  
 XX PD 09-AUG-2001.  
 XX PR 30-JAN-2001; 2001WO-US000668.  
 XX PR 04-FEB-2000; 2000US-0180312P.  
 XX PR 26-MAY-2000; 2000US-0207456P.  
 XX PR 30-JUN-2000; 2000US-00532366.  
 XX PR 03-AUG-2000; 2000US-00532366.  
 XX PR 21-SEP-2000; 2000US-0234687P.  
 XX PR 27-SEP-2000; 2000US-0236359P.  
 XX PR 04-OCT-2000; 2000GB-00024263.  
 XX PA (MOLE-) MOLECULAR DYNAMICS INC.  
 XX PI Penn SG, Hanzel DK, Chen W, Rank DR;  
 XX DR WPI; 2001-488900/53.  
 XX  
 PT Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human bone marrow.  
 XX PR Example 4; SEQ ID NO 37911; 658pp + Sequence Listing; English.  
 XX PS The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human bone marrow. They can be used to measure gene expression in bone marrow samples, which may enable the improved diagnosis and treatment of cancers such as lymphoma, leukemia and myeloma. The present sequence is a protein encoded by one of the probes of the invention  
 CC  
 XX SQ Sequence 51 AA;

	Query Match	Best Local Similarity	Score	DB	Length	Matches
C	RESULT 14	100.0%	Score 89;	DB 4;	Length 51;	
C	Best Local Similarity 100.0%; Pred. No. 3.2e-05;	Score 89;	DB 4;	Length 51;		
C	Mismatches 0;	Indels 0;	Gaps 0;			
C	Conservative 14;					
C	Matches 14;					
C	1 FCLGPCPYIWSDLT 14					
C						
C	34 FCLGPCPYIWSDLT 47					
C	ABG46640;					
C	ABG46640 standard; peptide; 51 AA.					
C	19-AUG-2002 (first entry)					
C	Human peptide encoded by genome-derived single exon probe SEQ ID 36305.					
C	Human; single exon probe; asthma; lung cancer; COPD; IID; chronic obstructive pulmonary disease; interstitial lung disease; familial idiopathic pulmonary fibrosis; neurofibromatosis; tuberous sclerosis; Gaucher's disease; Niemann-Pick disease; Hermansky-Pudlak syndrome; sarcoidosis; pulmonary haemosiderosis; pulmonary histiocytosis; lymphangioleiomysotis; Karagener syndrome; primary ciliary dyskinesia; pulmonary hypertension; hyaline membrane disease. Iu;					
C	Homo sapiens.					
C	WO200186003-A2.					
C	X 15-NOV-2001.					
C	R 30-JAN-2001; 2001WO-US000665.					
C	F 04-FEB-2000; 2000US-0180312P.					
C	R 04-FEB-2000; 2000US-0207436P.					
C	R 26-MAY-2000; 2000US-0060808.					
C	R 30-JUN-2000; 2000US-00632366.					
C	R 03-AUG-2000; 2000US-00632366.					
C	R 21-SEP-2000; 2000US-0234637P.					
C	R 27-SEP-2000; 2000US-0236319P.					
C	R 04-OCT-2000; 2000GB-00024263.					
C	A (MOLE-) MOLECULAR DYNAMICS INC.					
C	X Penn SG, Hanzel DK, Chen W, Rank DR;					
C	X WPI; 2002-114183/15.					
C	T Spatially-addressable set of single exon nucleic acid probes, used to measure gene expression in human lung samples.					
C	T Claim 27; SEQ ID NO 36305; 634pp; English.					
C	S The invention relates to a spatially-addressable set of single exon nucleic acid probes for measuring gene expression in a sample derived from human lung comprising single exon nucleic acid probes having one of 12614 nucleic acid sequences mentioned in the specification, or their complements or the 12387 open reading frames derived from the 12614 probes. Also included are a microarray comprising the novel set of probes , the novel set of probes which hybridise at high stringency to a nucleic acid expressed in the human lung; measuring gene expression in a sample derived from human lung, comprising (a) contacting the array with a collection of detectably labeled nucleic acids derived from human lung mRNA, and (b) measuring the label detectably bound to each probe of the array; identifying exons in a eukaryotic genome, comprising (a) algorithmically predicting at least one exon from genomic sequences of the eukaryote; and (b) detecting specific hybridisation of detectably labeled nucleic acids from eukaryote lung mRNA, to a single exon probe, having a fragment identical to the predicted exon, the probe is included in the above mentioned microarray; assigning exons to a single gene,					
C	X WO200109156-A1.					
C	X XX PN 08-FEB-2001.					
C	X XX PD 08-FEB-2001.					
C	T XX PP 26-JUL-2000; 2000WO-US020397.					
C	T XX PR 29-JUN-1999; 99US-00363939.					
C	P XX PA (NEXS-) NEXSTAR PHARM INC.					
C	P XX PI Pagratis N, Lochrie M, Gold L;					
C	P XX DR WPI; 2001-218217/22.					
C	P XX PT New RNA ligand to human transforming growth factor beta2, useful as RNA ligands to human transforming growth factor beta2 (TGFbeta2). The pharmaceuticals, diagnostics and as immunohistochemical reagents.					
C	P XX CC Oligonucleotide Ligands were identified by the SELEX method (SELEX stands for Systemic Evolution of Ligands by Exponential Enrichment). The oligonucleotide ligands are useful in any process in which binding to TGFbeta2 is required. The ligands may be useful as pharmaceuticals,					

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ub-09-831-253f-2.rag

Page 8

CC diagnostics, imaging agents and immunohistochemical reagents  
XX  
SQ Sequence 60 AA;

Query Match 100.0%; Score 89; DB 4; Length 60;  
Best Local Similarity 100.0%; Prod. No. 3.6e-05;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 FCLGPCPYIWSLDT 14  
||| ||| ||| |||  
Db 43 FCLGPCPYIWSLDT 56

Search completed: June 14, 2005, 15:46:23  
Job time : 80.2308 secs

GenCore version 5.1.6  
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## OM protein - protein search, using sw model

Run on: June 14, 2005, 15:35:40 ; Search time 15.6154 Seconds  
(without alignments)  
86.263 Million cell updates/sec

Title: US-09-831-253F-2  
Perfect score: 89  
Sequence: 1 FCLGCPYIWSLDT 14

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR 79; \*  
1: pir1; \*  
2: pir2; \*  
3: pir3; \*  
4: pir4; \*

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query	Match Length	DB ID	Description
1	89	100.0	130	2	I48196
2	89	100.0	315	2	A40057
3	89	100.0	390	1	WFHU2
4	89	100.0	390	1	WFM52
5	89	100.0	390	2	A26960
6	89	100.0	390	2	JC4023
7	89	100.0	390	2	A27512
8	89	100.0	390	2	I46463
9	89	100.0	390	2	S10219
10	89	100.0	391	2	S01413
11	82	92.1	373	2	A41918
12	75	84.3	382	2	B61036
13	68	76.4	112	2	A61439
14	68	76.4	412	2	A39489
15	68	76.4	413	1	WFXLB2
16	68	76.4	414	1	WFMKB2
17	68	75.4	414	1	WFMSB2
18	68	76.4	414	2	A31249
19	68	76.4	442	2	B31249
20	62	69.7	409	2	S01825
21	62	69.7	410	2	A41397
22	62	69.7	412	2	A34939
23	62	69.7	412	2	A36169
24	61	68.5	410	2	A55706
25	48	53.9	768	2	T22758
26	46	51.7	108	2	D69017
27	44	49.4	433	2	B90288
28	44	49.4	433	2	H90359
29	44	49.4	1382	1	INHUR

## ALIGNMENTS

RESULT 1  
I48196  
transforming growth factor beta-1 precursor - golden hamster (fragment)  
C;Species: *Mesocricetus auratus* (golden hamster)  
C;Date: 02-Jul-1996 #sequence\_revision 04-Oct-1996 #text\_change 09-Jul-2004  
C;Accession: I48196  
R;Wong, D. T.; Donoff, R. B.; Yang, J.; Song, B.Z.; Matossian, K.; Nagura, N.; Elovic, A.; Am, J. Patch. 143, 130-142, 1993  
A;Title: Sequential expression of transforming growth factors alpha and beta 1 by eosinophilic fibroblasts  
A;Reference number: I48196; MUID:93304479; PMID:8317544  
A;Accession: I48196  
A;Status: preliminary; translated from GB/EMBL/DDBJ  
A;Molecule type: mRNA  
A;Residues: 1-130 <RES>  
A;Cross-references: UNIPROT:Q08714; EMBL:X60296; NIDN:CAA42838.1; PIDN:9396177; PIDN:CAA42838.1; PIDN:93961  
C;Superfamily: inhibin

Query Match 100.0%; Score 89; DB 2; Length 130;  
Best Local Similarity 100.0%; Prod. No. 2.3e-06; Mismatches 0; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mi.matches 0;

Qy	1 FCLGCPYIWSLDT 14	Db	61 FCLGCPYIWSLDT 74
Qy		Db	

RESULT 2  
A40057  
transforming growth factor beta-1 precursor - bovine (fragment)  
N;Alternate names: beta-TGF; cartilage-inducing factor-A; EGF-dependent TGF or dEGF; MGF  
C;Species: *Bos primigenius taurus* (cattle)  
C;Date: 28-Feb-1992 #sequence\_revision 28-Feb-1992 #text\_change 09-Jul-2004  
C;Accession: A40057; A42320; A50584; A24322; B61439  
R;Van Obberghen-Schilling, E.; Kondaiah, P.; Ludwig, R.L.; Sporn, M.B.; Baker, C.C.  
Mol. Endocrinol. 1, 693-698, 1987  
A;Title: Complementary deoxyribonucleic acid cloning of bovine transforming growth factor-beta2.3 and -beta3  
A;Reference number: A40057; MUID:91042552; PMID:315459  
A;Accession: A40057  
A;Molecule type: mRNA  
A;Residues: 1-315 <VAN>  
A;Cross-references: UNIPROT:P18341; GB:M36271; NID:9163747; PIDN:AAA30778.1; PID:9163748  
R;Ozawa, Y.; Schmid, D.K.; Dasch, J.R.; Chang, R.J.; Glaser, C.B.  
J. Biol. Chem. 267, 2335-2328, 1992  
A;Title: Purification and characterization of transforming growth factor-beta2.3 and -beta3  
A;Reference: A42220; MUID:92123307; PMID:1733936  
A;Accession: A42320  
A;Molecule type: protein  
A;Residues: 204-209, X, 211-217 <OGA>  
R;Roberts, A.B.; Anzano, M.A.; Meyer, C.A.; Wideman, J.; Blacher, R.; Pan, Y.C.E.; Stein, B.; Biochemistry 22, 5692-5698, 1983  
A;Title: Purification and properties of a type beta transforming growth factor from bovine thiamin biosynthesizing cells  
A;Reference number: A05284; MUID:84104793; PMID:6607069

A;Accession: A05284  
A;Molecule type: protein  
A;Residues: 204-218 <RDR>  
A;Title: Carrilage-inducing factor-A. Apparent identity to transforming growth factor-beta  
A;Reference number: A24322; MUID:86195954; PMID:3754555  
A;Accession: R24322  
A;Molecule type: protein  
A;Residues: 204-233 <SER>  
A;Title: Separation, purification, and sequence identification of TGF-beta1 and TGF-beta  
A;Reference number: A61439; MUID:92189724; PMID:1799413  
A;Molecule type: protein  
A;Residues: 204-209, 'X', 211-217, 'XX', 220-232 <JIN>  
C;Comment: This polypeptide is composed of two polypeptide chains cross-linked by disulfide  
ion. Cells grown in monolayer do not respond in a similar manner to these growth factors  
C;Superfamily: inhibitin  
C;Keywords: glycoprotein; growth factor; heterodimer  
P;204-315/Product: transforming growth factor beta-1 #status experimental <MAT>  
P;7, 61-101/Binding site: carbohydrate (Asn) (covalent) #status predicted  
Query Match 100.0%; Score 89; DB 2; Length 315;  
Best Local Similarity 100.0%; Pred. No. 5e-06;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 FCLGRCPPYIWSLDT 14  
Db 246 FCLGRCPPYIWSLDT 259

**RESULT 3**

WFH22  
N:Alternate names: growth-inhibitory factor, TGF type 2; TGF-beta  
C;Species: Homo sapiens (man)  
C;Date: 28-Feb-1986 #sequence\_revision 19-Oct-1995 #text\_change 09-Jul-2004  
C;Accession: A27513; A01395; R2290; 159664; S55444  
R;Derbyck, R.; Rhee, L.; Chen, E.Y.; Van Tilburg, A.  
Nucleic Acids Res. 15, 3188-3189, 1987  
A;Title: Intron-exon structure of the human transforming growth factor-beta precursor gene  
A;Reference number: A27513; MUID:87174845; PMID:3470709  
A;Accession: A27513  
A;Molecule type: DNA  
A;Residues: 1-390 <DER>  
A;Cross-references: UNIPROT:P01137; GB:X05899; GB:Y00112; NID:937097; PDB:CAA2928.1; E  
Deryck, R.; Jarrett, J.A.; Chen, E.Y.; Eaton, D.H.; Bell, J.R.; Assoian, R.K.; Robert  
Nature 316, 701-705, 1985  
A;Title: Human transforming growth factor-beta complementary DNA sequence and expression  
A;Reference number: A01395; MUID:85296301; PMID:3861940  
A;Accession: A01395  
A;Molecule type: mRNA  
A;Residue: 1-390 <DER>  
A;Cross-references: UNIPROT:P04202; GB:MI3177; NID:9201952; PDB:AAA40423.1; PID:9201953  
A;Note: The authors suggest that residues 8-23 could represent the hydrophobic core of an  
A;Title: Human transforming growth factor-beta complementary DNA sequence and expression  
A;Reference number: A01395; MUID:85296301; PMID:3861940  
A;Accession: A01395  
A;Molecule type: protein  
A;Reference number: A22290; MUID:85131019; PMID:2982829  
A;Accession: A22290  
A;Molecule type: protein  
A;Residues: 279-295, 'XX', 298-301 <NAS>  
R;Urushizaki, Y.; Niitsu, Y.; Terui, T.; Koshida, Y.; Mahara, K.; Kohgo, Y.; Urushizaki,  
Tumor Res. 22, 41-55, 1987  
A;Title: Cloning and expression of the gene for human transforming growth factor-beta in  
A;Reference number: 159664  
A;Accession: 159664  
A;Status: preliminary; translated from GB/EMBL/DBJ  
A;Molecule type: mRNA  
A;Residues: 279-390 <RES>

**RESULT 4**

WFMS2  
N:Alternate names: TGF type 2; TGF-beta  
C;Species: Mus musculus (house mouse)  
C;Date: 04-Dec-1986 #sequence\_revision 04-Dec-1986 #text\_change 09-Jul-2004  
C;Accession: A01396  
R;Derbyck, R.; Jarrett, J.A.; Chen, E.Y.; Goeddel, D.V.  
J. Biol. Chem. 261, 4377-4379, 1986  
A;Title: The murine transforming growth factor-beta precursor.  
A;Reference number: A01396; MUID:86168129; PMID:3007454  
A;Accession: A01396  
A;Molecule type: mRNA  
A;Residues: 1-390 <DER>  
A;Cross-references: UNIPROT:P04202; GB:MI3177; NID:9201952; PDB:AAA40423.1; PID:9201953  
A;Note: The authors suggest that residues 8-23 could represent the hydrophobic core of an  
A;Title: Human transforming growth factor-beta complementary DNA sequence and expression  
A;Reference number: A01395; MUID:85296301; PMID:3861940  
A;Accession: A01395  
A;Molecule type: protein  
A;Reference number: A22290; MUID:85131019; PMID:2982829  
A;Accession: A22290  
A;Molecule type: protein  
A;Residues: 279-295, 'XX', 298-301 <NAS>  
R;Urushizaki, Y.; Niitsu, Y.; Terui, T.; Koshida, Y.; Mahara, K.; Kohgo, Y.; Urushizaki,  
Tumor Res. 22, 41-55, 1987  
A;Title: Cloning and expression of the gene for human transforming growth factor-beta in  
A;Reference number: 159664  
A;Accession: 159664  
A;Status: preliminary; translated from GB/EMBL/DBJ  
A;Molecule type: mRNA  
A;Residues: 279-390 <RES>

**RESULT 5**

WFMS2  
N:Alternate names: TGF type 2; TGF-beta  
C;Species: Cercopithecus aethiops (green monkey)  
C;Date: 05-Oct-1988 #sequence\_revision 05-Oct-1988 #text\_change 09-Jul-2004  
C;Accession: A26960  
R;Sharples, K.; Plowman, G.D.; Rose, T.M.; Twardzik, D.R.; Puccio, A.F.  
DNA 6, 239-244, 1987

A;Title: Cloning and sequence analysis of simian transforming growth factor-beta cDNA.  
A;Reference number: A26960; MUID:87246074; PMID:3474130  
A;Accession: A26960  
A;Molecule type: mRNA  
A;Residues: 1-390 <SHA>  
C;Superfamily: inhibin  
C;Keywords: growth factor  
F;1-15/Domain: signal sequence #status predicted <SIG>  
F;11-390/Product: transforming growth factor beta #status predicted <MAT>  
Query Match 100.0%; Score 89; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 6e-06; 0; Mismatches 0; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 FCLGCPYIWSLDT 14  
Db 321 FCLGCPYIWSLDT 334

RESULT 6  
JC4023  
transforming growth factor beta-1 - dog  
C;Species: Canis lupus familiaris (dog)  
C;Date: 13-Jun-1995 #sequence\_revision 14-Jul-1995 #text\_change 09-Jul-2004  
C;Accession: JC4023  
R;Manning, A. M.; Auchampach, J.A.; Drong, R.F.; Slightom, J.L.  
Gene 155, 307-318, 1995  
A;Title: Cloning of a canine cDNA homologous to the human transforming growth factor-beta  
A;Reference number: JC4023; MUID:55237630; PMID:772110  
A;Accession: JC4023  
A;Molecule type: mRNA  
A;Residues: 1-390 <MAN>  
A;Cross-references: UNIPROT:PS4831; GB:L34956; NID:g516071; PIDN:AA51458.1; PID:g516072  
C;Comment: This factor plays a multifunctional role as a regulator of mammalian cell growth  
A;Gene: tgf-beta1  
C;Superfamily: inhibin  
C;Keywords: growth factor; transforming protein  
F;288-390/Product: transforming growth factor beta 1 #status predicted <MAT>  
Query Match 100.0%; Score 89; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 6e-06; 0; Mismatches 0; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 FCLGCPYIWSLDT 14  
Db 321 FCLGCPYIWSLDT 334

RESULT 7  
A27512  
transforming growth factor beta-1 precursor - pig  
N;Alternate names: TGF-beta  
C;Species: Sus scrofa domestica (domestic pig)  
C;Date: 05-Jun-1988 #sequence\_revision 05-Jun-1988 #text\_change 09-Jul-2004  
C;Accession: A26556; T46657  
R;Debynick, R.; Rhee, L.  
Nucleic Acids Res. 15, 3187, 1987  
A;Title: Sequence of the porcine transforming growth factor-beta precursor.  
A;Reference number: A27512; MUID:87174844; PMID:3470708  
A;Accession: A27512  
A;Molecule type: mRNA  
A;Residues: 1-390 <DER>  
A;Cross-references: UNIPROT:PO7200  
A;Title: The transforming growth factor-beta system, a complex pattern of cross-reactive  
A;Reference number: A90800; MUID:87102890; PMID:2879635  
A;Accession: A63356  
A;Molecule type: protein  
A;Residues: 27-32 <CHE>  
R;Kondaiah, P.; Van Obberghen-Schilling, E.; Ludwig, R.L.; Dhar, R.; Sporn, M.B.; Robert

J. Biol. Chem. 263, 18313-18317, 1988  
A;Title: cDNA cloning of porcine transforming growth factor-beta 1 mRNA. Evidence for a  
A;Reference number: I46657; MUID:89054010; PMID:2461367  
A;Accession: I46657  
A;Status: preliminary; translated from GB/EMBL/DDJB  
A;Molecule type: mRNA  
A;Residues: 1-390 <KON>  
A;Cross-references: GB:M23703; NID:g755044; PIDN:AA64616.1; PID:g755045  
A;Gene: TGF-B; TGF-beta-1  
A;Superfamily: inhibin  
C;Keywords: growth factor  
F;1-15/Domain: signal sequence #status predicted <SIG>  
F;11-390/Product: transforming growth factor beta #status predicted <MAT>  
Query Match 100.0%; Score 89; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 6e-06; 0; Mismatches 0; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 FCLGCPYIWSLDT 14  
Db 321 FCLGCPYIWSLDT 334

RESULT 8  
I46463  
transforming growth factor beta-1 - sheep  
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)  
C;Date: 19-Dec-1997 #sequence\_revision 19-Dec-1997 #text\_change 09-Jul-2004  
C;Accession: I46463; S45115  
R;Woodall, C.J.; McIlaren, L.J.; Watt, N.J.  
Gene 150, 31-37, 1994  
A;Title: Sequence and chromosomal localisation of the gene encoding ovine latent transforming growth factor beta-1  
A;Reference number: I46463; MUID:95121932; PMID:7821809  
A;Accession: I46463  
A;Status: preliminary; translated from GB/EMBL/DDJB  
A;Molecule type: mRNA  
A;Residues: 1-390 <WOO>  
A;Cross-references: UNIPROT:PS50414; EMBL:X76916; NID:g496648; PIDN:CAA54242.1; PID:g496648  
A;Note: submitted to the EMBL Data Library, December 1993  
C;Superfamily: inhibin  
Query Match 100.0%; Score 89; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 6e-06; 0; Mismatches 0; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy 1 FCLGCPYIWSLDT 14  
Db 321 FCLGCPYIWSLDT 334

RESULT 9  
S10219  
transforming growth factor beta-1 precursor - rat  
N;Alternate names: TGF type 2; TGF-beta  
C;Species: Rattus norvegicus (Norway rat)  
C;Date: 12-Feb-1993 #sequence\_revision 12-Feb-1993 #text\_change 09-Jul-2004  
C;Accession: S10219; PT0023; S02267  
R;Oian, S.W.; Kondaiah, P.; Roberts, A.B.; Sporn, M.B.  
Nucleic Acids Res. 18, 3059, 1990  
A;Title: cDNA cloning by PCR of rat transforming growth factor beta-1.  
A;Reference number: S10219; MUID:9027425; PMID:2349108  
A;Accession: S10219  
A;Molecule type: mRNA  
A;Residues: 1-390 <QKA>  
A;Cross-references: UNIPROT:P17246; EMBL:X52498; NID:g57341; PIDN:CAA36741.1; PID:g57342  
R;Okada, F.; Yamaguchi, K.; Ichihara, A.; Nakamura, T.  
J. Biochem. 105, 304-310, 1989  
A;Title: Purification and structural analysis of a latent form of transforming growth factor beta-1  
A;Reference number: PT0023; MUID:9036779; PMID:2478527  
A;Accession: PT0023  
A;Molecule type: protein  
A;Residues: 30-32, X'34-38, Q'40-42, X'44 <OKA>  
R;Okada, F.; Yamaguchi, K.; Ichihara, A.; Nakamura, T.  
FEBS Lett. 242, 240-244, 1989

A;Title: One of two subunits of masking protein in latent TGF-beta is a part of pro-TGF-  
A;Reference number: S02267; MUID:89121078; PMID:291605  
A;Accession: S02267  
A;Molecule type: protein  
A;Residues: 30-32, 'X', 34-38, 'Q', 40-42, 'X', 44 <OK2>  
C;Superfamily: inhibin  
C;Keywords: glycoprotein; growth factor; integrin binding  
F1-29/Domain: signal sequence (fragment) #status predicted <SIG>  
F1-30/Domain: propetide #status experimental <PRO>  
F1-244-246/Region: cell attachment (R-G-D) motif  
F1-279-380/Product: transforming growth factor beta-1 #status predicted <MAT>  
F1-82, 136-176/Binding site: carbohydrate (Asn) (covalent) #status predicted  
Query Match 100.0%; Score 89; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 6e-06; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Qy 1 FCLGRCPCPYIWSLDT 14  
Db 321 FCLGRCPCPYIWSLDT 334

RESULT 10  
S01413 transforming growth factor beta-1 precursor - chicken  
C;Species: Gallus gallus (chicken)  
C;Date: 30-Jun-1989 #sequence\_revision 30-Jun-1989 #text\_change 09-Jul-2004  
C;Accession: S01413  
R;Jakowlew, S.B.; Dillard, P.J.; Sporn, M.B.; Roberts, A.B.  
Nucleic Acids Res. 16, 8730, 1988  
A;Title: Nucleotide sequence of chicken transforming growth factor-beta 1 (TGF-beta 1).  
A;Reference number: S01413; MUID:88335639; PMID:3166520  
A;Accession: S01413  
A;Molecule type: DNA  
A;Residues: 1-391 <JAK>  
A;Cross-references: UNIPROT:R07200; EMBL:X12373; NID:963806; PIDN:CA30933.1; PID:963809  
C;Superfamily: inhibin  
C;Keywords: growth factor

Query Match 100.0%; Score 89; DB 2; Length 391;  
Best Local Similarity 100.0%; Pred. No. 6e-06; Indels 0; Gaps 0;  
Matches 14; Conservative 0; Mismatches 0; Qy 1 FCLGRCPCPYIWSLDT 14  
Db 322 FCLGRCPCPYIWSLDT 335

RESULT 11  
A1918 transforming growth factor beta-4 precursor - chicken (fragment)  
N;Alternate names: TGF-beta 4  
C;Species: Gallus gallus (chicken)  
C;Date: 31-Dec-1993 #sequence\_revision 31-Dec-1993 #text\_change 09-Jul-2004  
C;Accession: A41918; A44941; S03110  
R;Burk, D.W.; Jakowlew, S.B.  
Mol. Endocrinol. 6, 989-992, 1992  
A;Title: Correction: a new interpretation of a chicken transforming growth factor-beta 4  
A;Reference number: A41918; MUID:92357039; PMID:1353860  
A;Accession: A41918  
A;Molecule type: mRNA  
A;Residues: 1-73 <BUR>  
A;Cross-references: UNIPROT:P09531; GB:M31160; GB:X08012; GB:S41706; NID:g1262437; PIDN:  
A;Note: this report corrects and reinterprets the sequence from reference A34941  
A;Title: Separation, purification, and sequence identification of TGF-beta1 and TGF-beta 4  
A;Reference number: A34941  
A;Molecule type: mRNA  
Mol. Endocrinol. 2, 1186-1195, 1988  
A;Title: Complementary deoxyribonucleic acid cloning of a messenger ribonucleic acid end  
A;Accession: A34941; MUID:89112198; PMID:2464131  
A;Molecule type: mRNA  
A;Residues: MPDMSIGPKSCGGSPWRRPGRPWIGSRATSSCSTSSRRVRAEVGGRAL', 122-209, 'D', 211-373 <

A;Note: this sequence has been corrected in A41918  
C;Superfamily: inhibin  
C;Keywords: glycoprotein; growth factor  
F1/Domain: signal sequence (fragment) #status predicted <SIG>  
F1-223-225/Region: cell attachment (R-G-D) motif  
F1-260-373/Product: transforming growth factor beta-4 #status predicted <MAT>  
F1-54, 109, 153/Binding site: carbohydrate (Asn) (covalent) #status predicted  
F1-30/Domain: propetide #status experimental <PRO>  
F1-244-246/Region: cell attachment (R-G-D) motif  
F1-279-380/Product: transforming growth factor beta-1 #status predicted <MAT>  
F1-82, 136-176/Binding site: carbohydrate (Asn) (covalent) #status predicted  
Query Match 92.1%; Score 82; DB 2; Length 373;  
Best Local Similarity 85.7%; Pred. No. 6.4e-05; Indels 0; Gaps 0;  
Matches 12; Conservative 1; Mismatches 1; Qy 1 FCLGRCPCPYIWSLDT 14  
Db 304 FCLGRCPCPYIWSLDT 317

RESULT 12  
B61036 transforming growth factor beta-5 precursor - African clawed frog  
C;Species: Xenopus laevis (African clawed frog)  
C;Date: 31-Dec-1993 #sequence\_revision 03-Feb-1994 #text\_change 09-Jul-2004  
C;Accession: A34929; B61036  
R;kondala, P.; Sands, M.J.; Smith, J.M.; Fields, A.; Roberts, A.B.; Sporn, M.B.; Melton, J. Biol. Chem. 265, 1059-1063, 1990  
A;Title: Identification of a novel transforming growth factor-beta (TGF-beta5) mRNA in Xe Growth Factors 2, 135-147, 1990  
A;Reference number: A34929; MUID:90110090; PMID:2295601  
A;Accession: A34929  
A;Molecule type: mRNA  
A;Residues: 1-382 <RON>  
A;Cross-references: UNIPROT:P16176; GB:J05180; NID:214821; PID:9214822  
A;Reference number: A34929; MUID:90110090; PMID:2295601  
A;Title: Isolation and characterization of TGF-beta2 and TGF-beta5 from medium condition  
A;Accession: B61036  
A;Molecule type: protein  
A;Residues: 271-276, 'X', 278-284, 'XX', 287-299 <ROB>  
C;Superfamily: inhibin  
C;Keywords: growth factor  
F1-271-382/Product: transforming growth factor beta-5 #status experimental <MAT>  
Query Match 84.3%; Score 75; DB 2; Length 382;  
Best Local Similarity 78.6%; Pred. No. 0.00073; Indels 0; Gaps 0;  
Matches 11; Conservative 2; Mismatches 1; Qy 1 FCLGRCPCPYIWSLDT 14  
Db 313 YCLGNCPYIWSLDT 326

RESULT 13  
A61439 transforming growth factor beta-2 - bovine  
N;Alternate names: cartilage-inducing factor B; MGF; a milk growth factor a  
C;Species: Bos primigenius taurinus (cattle)  
C;Date: 07-Oct-1994 #sequence\_revision 07-Oct-1994 #text\_change 09-Jul-2004  
C;Accession: A61439; A25485; B42220; S15389  
R;Jin, Y.; Cox, D.A.; Knecht, R.; Raschdorf, F.; Cestetti, N.  
J. Protein Chem. 10, 565-575, 1991  
A;Title: Separation, purification, and sequence identification of TGF-beta1 and TGF-beta 2  
A;Reference number: A61439; MUID:92189724; PMID:1799413  
A;Accession: A61439  
A;Molecule type: protein  
A;Residue: 1-112 <JIN>  
A;Cross-references: UNIPROT:P21214  
A;Experimental source: milk  
R;Sevedin, S.M.; Segarini, P.R.; Rosen, D.M.; Thompson, A.Y.; Bentz, H.; Graycar, J.  
J. Biol. Chem. 262, 1966-1969, 1987  
A;Title: Cartilage-inducing factor B is a unique protein structurally and functionally re  
A;Reference number: A25485; MUID:87137406; PMID:3469199  
A;Accession: A25485  
A;Molecule type: protein

A;Residues: 1-30 <SEY>  
A;Experimental source: bone  
R;Ogawa, Y.; Schmidt, D.K.; Dasch, J.R.; Chang, R.J.; Glaser, C.B.  
J. Biol. Chem. 267, 2325-2328, 1992.  
A;Title: Purification and characterization of transforming growth factor-beta2.3 and -beta 2 from milk.  
A;Reference number: A42320; MUID:9212907; PMID:173336  
A;Accession: B42320  
A;Molecule type: protein  
A;Residues: 1-6, 'X', 8-4, 'XX', 17-34 <OCA>  
A;Experimental source: bone  
A;Accession: S15389  
A;Molecule type: protein  
A;Residues: 1-16, 'X', 19 <COX>  
A;Experimental source: milk  
C;Superfamily: inhibin  
C;Keywords: growth factor; growth regulation; heterodimer; homodimer  
Query Match 75.4%; Score 68; DB 2; Length 112;  
Best Local Similarity 71.4%; Pred. No. 0.0028;  
Matches 10; Conservative 1; Mismatches 3; Indels 0; Gaps 0;  
QY 1 FCILGCPYIWSLDT 14  
Db 43 FCAGACPYIWLSSDT 56

RESULT 14  
A39489  
transferring growth factor beta-2 precursor - chicken  
N;Alternate names: TGF-beta2  
C;Species: Gallus Gallus (chicken)  
C;Accession: A39489; A61018; S25849  
C;Date: 17-Jul-1992 #sequence revision 17-Jul-1992 #text\_change 09-Jul-2004  
R;Burk, D.W.; Paton, I.R.  
DNA Cell Biol. 10, 723-734, 1991  
A;Title: Molecular cloning and primary structure of the chicken transforming growth factor beta-2 gene  
A;Reference number: A39489; MUID:92075163; PMID:1683775  
A;Accession: A39489  
A;Molecule type: DNA  
A;Residues: 1-412 <BUR>  
A;Cross-references: UNIPROT:P30371; GB:X58071; NID:963810; PIDN:CAA41101.1; PID:9833615;  
R;Jakowlew, S.B.; Dillard, P.J.; Sporn, M.B.; Roberts, A.B.  
Growth Factors 2, 123-133, 1990  
A;Title: Complementary deoxyribonucleic acid cloning of an mRNA encoding transforming growth factor number: A61018; MUID:90255805; PMID:2340183  
A;Accession: A61018  
A;Status: not compared with conceptual translation  
A;Molecule type: mRNA  
A;Residues: 1-94, 'G', 96-244, 'L', 246-412 <JAK>  
C;Genetics:  
A;Introns: 115/1, 169/3; 214/1, 251/1, 309/2, 360/3  
C;Supergfamily: inhibin  
C;Keywords: growth factor; growth regulation; mitogen; transformation  
F,1-26/Domain: signal sequence #status predicted <SIG>  
F,27-300/Domain: propeptide #status predicted <PRO>  
F,301-412/Product: transforming growth factor beta-2 #status predicted <MAT>  
Query Match 76.4%; Score 68; DB 2; Length 412;  
Best Local Similarity 71.4%; Pred. No. 0.0088;  
Matches 10; Conservative 1; Mismatches 3; Indels 0; Gaps 0;  
QY 1 FCILGCPYIWSLDT 14  
Db 343 FCAGACPYIWLSSDT 356

RESULT 15  
WFKLB2  
transforming growth factor beta-2 precursor - African clawed frog

C;Species: Xenopus laevis (African clawed frog)  
C;Date: 12-Feb-1993 #sequence\_revision 19-Oct-1995 #text\_change 09-Jul-2004  
C;Accession: S09510; A61036  
R;Robert, M.L.; Bhatia-Dey, N.; David, I.B.  
Nucleic Acids Res. 18, 2185, 1990  
A;Title: The sequence of TGF-beta2 from Xenopus laevis.  
A;Reference number: S09510; MUID:90245678; PMID:2336403  
A;Accession: S09510  
A;Molecule type: mRNA  
A;Residues: 1-413 <REB>  
A;Cross-references: UNIPROT:P17247; EMBL:X51817; PIDN:CAA36116.1; PID:96513  
R;Roberts, A.B.; Rosa, F.; Roche, N.S.; Coligan, J.E.; Garfield, M.; Rebbeck, M.L.; Kond  
Growth Factors 2, 135-147, 1990  
A;Title: Isolation and characterization of TGF-beta2 and TGF-beta5 from medium condition.  
A;Reference number: A61036; MUID:90253806; PMID:2340184  
A;Accession: A61036  
A;Molecule type: protein  
A;Residues: 302-307, 'X', 309-315, 'XX', 318-319 <ROB>  
C;Superfamily: inhibin  
C;Keywords: glycoprotein; growth factor; growth regulation; homodimer; mitogen  
F;1-19/Domain: signal sequence #status predicted <SIG>  
F;20-301/Domain: propeptide #status predicted <PRO>  
F;302-413/Product: transforming growth factor beta-2 #status predicted <MAT>  
F;72,140,241/Binding site: carbohydrate (Asn) (covalent) #status predicted  
Query Match 76.4%; Score 68; DB 1; Length 413;  
Best Local Similarity 71.4%; Pred. No. 0.0088;  
Matches 10; Conservative 4; Mismatches 3; Indels 0; Gaps 0;  
QY 1 FCILGCPYIWSLDT 14  
Db 344 FCAGACPYIWLSSDT 357

Search completed: June 14, 2005, 15:52:10  
Job time : 16.6154 secs

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GenCore version 5.1.6  
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## OM protein - protein search, using BW model

Run on: June 14, 2005, 15:34:23 ; Search time 74.8462 Seconds  
 (without alignments)  
 95.785 Million cell updates/sec

Title: US-09-831-253F-2

Perfect score: 89  
 Sequence: 1 PCLGPPFYIWSLDT 14

Scoring table: BLOSUM62  
 Gapop 10.0 , Gapext: 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0  
 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
 Maximum Match 100%  
 Listing first 45 summaries

Database : UniProt 03-\*  
 1: uniprot\_sprot:\*

2: uniprot\_trembl:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match Length	DB ID	Description
1	89	100.0	50	Q28240 cervus elap
2	89	100.0	51	Q72487 homo sapien
3	89	100.0	78	Q70316 bus scrofa
4	89	100.0	112	Q02730 oryctolagus canis famil
5	89	100.0	124	Q95NB0 canis familiaris
6	89	100.0	130	Q87144 mesocricetus auratus
7	89	100.0	315	Q18341 bos taurus
8	89	100.0	368	Q8R4D9 sigmodon hi
9	89	100.0	390	Q54331 canis familiaris
10	89	100.0	390	Q2Y16 TGF1_CAVPO
11	89	100.0	390	Q9P933 TGF1_CERAE
12	89	100.0	390	Q9P933 TGF1_HORSE
13	89	100.0	390	Q10911 TGF1_HUMAN
14	89	100.0	390	Q04202 TGF1_MOUSE
15	89	100.0	390	Q07246 TGF1_PIG
16	89	100.0	390	Q107246 TGF1_RAT
17	89	100.0	390	Q50414 TGF1_SHBEP
18	89	100.0	390	Q9Tumb equus caballus
19	82	92.1	101	Q9R184 meriones un
20	82	92.1	373	Q09531 gallus gallus
21	75	84.3	1	TGF1_CHICK
22	69	77.5	382	TGF1_XENLA
23	69	77.5	62	Q90YF4 xenopus laevis
24	69	77.5	77	Q90YFB pleuronectes
25	69	77.5	88	Q90YF7 oncorhynchus
26	69	77.5	91	Q9MYZ1 capra hircus
27	69	77.5	361	Q98854 cyprinus carpio
28	68	76.4	411	Q783V4 brachydanio
29	68	76.4	86	Q28241 cervus elaphus
30	68	76.4	112	TGF2_BOVIN
31	68	76.4	224	P21214 bos taurus
32	68	76.4	2	Q8CQZ9 mus musculus
33	68	76.4	399	Q9ERB7 mesocricetus
34	68	76.4	412	P31371 gallus gallus
35	68	76.4	413	P11247 xenopus laevis
36	68	76.4	414	P61811 cercoptiene
37	68	76.4	414	P21090 mus musculus
38	68	76.4	414	Q91VP5 mus musculus
39	68	76.4	435	P08858 sus scrofa
40	68	76.4	442	Q01257 rattus norvegicus
41	68	76.4	442	Q67TC3 oryctolagus cuniculus
42	62	69.7	62	Q90YF3 pleuronectes americanus
43	62	69.7	62	Q90YF9 oncorhynchus keta
44	62	69.7	62	Q90YJ8 anguilla anguilla
45	62	69.7	88	Q90ZE7 acipenser bairdii

## ALIGNMENTS

RESULT	ID	PRELIMINARY;	PRT;	50 AA.
1	Q28240			
	Q28240			
	AC			
	DT	01-Nov-1996 (TREMBLrel. 01, Last sequence update)		
	DT	01-Mar-2004 (TREMBLrel. 26, Last annotation update)		
	DR	Transforming growth factor beta 1 (TGF-beta 1) (Transforming growth factor B1) (Fragment)		
	GN	Name=IGFB1; Synonyms=TGF beta-1, TGF-B1;		
	OS	Cervus elaphus (Red deer)		
	OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae; Cervinae; Cervus.		
	OC			
	OX	NCBI_TaxID=9860;		
	RN	[1] SEQUENCE FROM N.A.		
	RP			
	RT	"Detection of growth factors and proto-oncogene mRNA in the growing tip of red deer (Cervus elaphus) antler using reverse-transcriptase polymerase chain reaction (RT-PCR).";		
	RT	J. Exp. Zool. 281:36-42(1998).		
	RN	[2]		
	RP			
	RT	SEQUENCE FROM N.A.		
	RT	TISSUE=Testis;		
	RA	Wadener A., Blottner S., Pickel J.,		
	RT	"Detection of growth factors in the testes of roe deer (capreolus capreolus).";		
	RT	Submitted (May-1999) to the EMBL/GenBank/DBJ databases.		
	CC	-!- FUNCTION: TGF-BETA_1 IS A MULTIFUNCTIONAL PEPTIDE THAT CONTROLS PROLIFERATION, DIFFERENTIATION, AND OTHER FUNCTIONS IN MANY CELLS TYPES. MANY CELLS SYNTHESIZE TGF BETA 1 AND ESSENTIALLY ALL OF THEM HAVE SPECIFIC RECEPTORS FOR THIS PEPTIDE. TGF-BETA_1 REGULATES THE ACTIONS OF MANY OTHER PEPTIDE GROWTH FACTORS AND DETERMINES A POSITIVE OR NEGATIVE DIRECTION OF THEIR EFFECTS.		
	CC	-!- SUBUNIT: Homodimer, disulfide-linked (By similarity).		
	CC	-- SIMILARITY: Belongs to the TGF-beta family.		
	EMBL	CC EMBL; U62110; AA0B25261; -.		
	DR	EMBL; AF152591; AAFT3230.1; -.		
	DR	HSSP; P01137; IKA.		
	DR	GO; GO:0008033; TGF-growth factor activity; IEA.		
	DR	GO; GO:0008283; P-cell proliferation; IEA.		
	DR	GO; GO:0000074; P-regulation of cell cycle; IEA.		
	DR	INTERPRO; IPRO018387; TGFbeta.		
	DR	Pfam; PF00019; TGF beta; 1.		
	DR	ProDom; PD000357; TGFb; 1.		
	DR	SMART; SM00204; TGFb; 1.		
	DR	PROSITE; PS00250; TGF_BETA_1; 1.		
	DR	KW GLYCOPROTEIN; Growth Factor; Mitogen.		
	FT	NON_TER 1		
	CHAIN	<1 >50 TRANSFORMING GROWTH FACTOR BETA 1.		

FT NON TER 50 50  
 SQ SEQUENCE 50 AA; 6012 MW; 0DDDAE48C640759F CRC64;

Query Match 100.0%; Score 89; DB 2; Length 50;  
 Best Local Similarity 100.0%; Pred. No. 1.7e-06;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FCLGPCPYIWSLDT 14  
 35 ||||| ||||| |||||  
 Db 35 FCLGPCPYIWSLDT 48

RESULT 2  
 Q2487 PRELIMINARY; PRT; 51 AA.  
 ID Q2487  
 AC 072487;  
 DT 01-OCT-2003 (TREMBlrel. 25, Created)  
 DT 01-OCT-2003 (TREMBlrel. 25, Last sequence update)  
 DT 01-MAR-2004 (TREMBlrel. 26, Last annotation update)

DE Transforming growth factor beta 1 (Fragment).  
 DE Name=TGFBI;

OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Homindae; Homo.  
 OX NCBI\_TaxID=9606;  
 RN [1]  
 RP SEQUENCE FROM N.A.

RA Vieira A.R., Murray J.C.;  
 RL Submitted (JUN-2003) to the EMBL/GenBank/DBJ databases.  
 CC -!- SIMILARITY: Belongs to the TGF-beta family.

DR EMBL; AV330202; AAQ18642.1; -.  
 DR HSSP; P01137; 1KLA.  
 DR GO; GO:000803; FGrowth factor activity; IEA.  
 DR InterPro; IPR001839; TGFb.  
 DR Pfam; PF0019; TGF\_beta\_1.  
 DR Prodom; PD000357; TGFb; 1.  
 DR SMART; SM0204; TGFb; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 KW Growth factor.

FT NON TER 51 51  
 SQ SEQUENCE 51 AA; 6140 MW; 259F4DB22E48A9D0 CRC64;

Query Match 100.0%; Score 89; DB 2; Length 51;  
 Best Local Similarity 100.0%; Pred. No. 1.7e-06;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FCLGPCPYIWSLDT 14  
 34 ||||| ||||| |||||  
 Db 34 FCLGPCPYIWSLDT 47

RESULT 3  
 Q70316 PRELIMINARY; PRT; 78 AA.  
 ID Q70316;  
 DT 05-JUL-2004 (TREMBlrel. 27, Created)  
 DT 05-JUL-2004 (TREMBlrel. 27, Last sequence update)  
 DT 05-JUL-2004 (TREMBlrel. 27, Last annotation update)

DE Transforming growth factor beta 1 (Fragment).  
 GN Name=TGBB1; (pig).  
 OS SUS Scrofa; (pig).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sub.  
 OX NCBI\_TaxID=9823;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Konecny M., Stratil A., Van Poucke M., Bartenschlager H.,  
 RA Geldermann H., Peebles L.J.;  
 RL Submitted (JAN-2004) to the EMBL/GenBank/DBJ databases.  
 CC -!- SIMILARITY: Belongs to the TGF-beta family.  
 DR EMBL; AU622175; CAF21862.1; -.  
 DR HSSP; P01137; 1KLA.

DR GO; GO:000803; FGrowth factor activity; IEA.  
 DR InterPro; IPR00139; TGFb.  
 DR PRODOM; PD000357; TGFb; 1.  
 DR SMART; SM0204; TGF\_BETA\_1; 1.  
 DR PRODOM; PS00250; TGF\_BETA\_1; 1.  
 KW Growth factor.  
 FT NON TER 1 1  
 FT CHAIN <1 >78  
 FT NON TER 78 78  
 FT SEQUENCE 78 AA; 8981 MW; 1BA179E147738152 CRC64;

Query Match 100.0%; Score 89; DB 2; Length 78;  
 Best Local Similarity 100.0%; Pred. No. 2.5e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 FCLGPCPYIWSLDT 14  
 Db 27 FCLGPCPYIWSLDT 40

RESULT 4  
 ID 002730 PRELIMINARY; PRT; 112 AA.  
 AC 002730; 097501;  
 DT 01-JUL-1997 (TREMBlrel. 04, Created)  
 DT 01-JUL-1997 (TREMBlrel. 04, Last sequence update)  
 DT 01-MAR-2004 (TREMBlrel. 26, Last annotation update)  
 DE Transforming growth factor beta 1 (TGF-beta 1) (Fragment).  
 GN Name=TGFBI; Synonyms=TGF-beta-1;  
 OS Oryctolagus cuniculus (Rabbit).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
 OX NCBI\_TaxID=9986;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Taylor T.K., James E.R., Macdonigle S., Yoho E.R.;  
 RL Submitted (APR-1997) to the EMBL/GenBank/DBJ databases.  
 RN [2]  
 RP SEQUENCE OF 2-99 FROM N.A.  
 RA Inoue K., Kawabe Y., Kodama T.;  
 RL Submitted (NOV-1998) to the EMBL/GenBank/DBJ databases.  
 CC -!- FUNCTION: TGF-BETA 1 IS A MULTIFUNCTIONAL PEPTIDE THAT CONTROLS  
 PROLIFERATION, DIFFERENTIATION, AND OTHER FUNCTIONS IN MANY CELL  
 TYPES. MANY CELLS SYNTHESIZE TGF-BETA 1 AND ESSENTIALLY ALL OF  
 THEM HAVE SPECIFIC RECEPTORS FOR THIS PEPTIDE. TGF-BETA 1  
 REGULATES THE ACTIONS OF MANY OTHER PEPTIDES GROWTH FACTORS AND  
 DETERMINES A POSITIVE OR NEGATIVE DIRECTION OF THEIR EFFECTS.  
 CC -!- SUBUNIT: Homodimer; disulfide-linked (By similarity).  
 CC -!- SIMILARITY: Belongs to the TGF-beta family.  
 DR EMBL; AF00013; AAAB3806.1; -.  
 DR PFAM; PF002217; BAA36950.1; -.  
 DR HSSP; P01137; 1KLA.  
 DR GO; GO:000803; FGrowth factor activity; IEA.  
 DR GO; GO:000823; PC-cell proliferation; IEA.  
 DR GO; GO:000074; Regulation of cell cycle; IEA.  
 DR InterPro; IPR002400; GF\_cyskn.  
 DR InterPro; IPR001839; TGFb.  
 DR Pfam; PF00019; TGF\_beta\_1.  
 DR PRINTS; PR00438; GFCYSNOT.  
 DR PRODOM; PD000357; TGFb; 1.  
 DR SMART; SM00803; TGFb; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 KW Glycoprotein; Growth factor; Mitogen.  
 FT NON TER 1 112  
 FT CHAIN 1 112  
 FT DISULFID 7 16  
 FT DISULFID 15 78  
 FT DISULFID 44 109  
 FT DISULFID 48 111  
 FT DISULFID 77 77  
 FT DISULFID 77 77  
 FT DISULFID 2 3  
 FT CONFLICT 85 92  
 PLPIVIVV -> ATAHRVTL (IN REF. 2).



RC TISSUE=bone;  
 RX MEDLINE:922129307; PubMed=1733936;  
 RA Ogawa Y.; Schmidt D.K.; Dasch J.R.; Chang R.J.; Glaser C.B.;  
 RT "Purification and characterization of transforming growth factor-beta  
 2.3 and -beta 1.2 heterodimers from bovine bone.";  
 RL J. Biol. Chem. 267:2328-11992.  
 CC -- FUNCTION: TGF-beta is a multifunctional peptide that control  
 proliferation, differentiation, and other functions in many cell  
 types. Many cells synthesize TGF-beta and essentially all of them  
 have specific receptors for this peptide. TGF-beta regulates the  
 actions of many other peptide growth factors and determines a  
 positive or negative direction of their effects. Play an important  
 role in bone remodelling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and  
 differentiation in committed osteoblasts (By similarity).  
 CC -- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 The inactive complex can contain a latent TGF-beta binding protein  
 (By similarity). The active form is a homodimer of mature TGF-beta  
 1; disulfide-linked. Heterodimers of TGF-beta 1/2 have been found  
 in bone.  
 CC -- SUBCELLULAR LOCATION: Secreted.  
 CC -- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP (By similarity).  
 CC -- SIMILARITY: Belongs to the TGF-beta family.  
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
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 the European Bioinformatics Institute. There are no restrictions on its  
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 or send an email to license@isb-sib.ch).  
 CC  
 DR EMBL; M6271; AAA0778.1; -.  
 DR PIR; A40057; R40057.  
 DR HSSP; P01137; I1KA.  
 DR InterPro; IPR002400; GF\_cysknot.  
 DR InterPro; IPR003911; TGF\_betaB.  
 DR InterPro; IPR001839; TGFb.  
 DR InterPro; IPR001111; TGB\_N.  
 DR Pfam; PF00019; TGF\_beta; I.  
 DR Pfam; PF00688; TGFb\_propeptide; 1.  
 DR PRINTS; PR00438; TGFYSKNOT.  
 DR PRINTS; PR01423; TGFbeta.  
 DR PRODOM; PD000357; TGFb.  
 DR SMART; SM00204; TGBB; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 KW Glycoprotein; Growth Factor; Mitogen.  
 FT NON\_TER 1  
 PROTEP <1 203 Transforming growth factor beta 1.  
 FT CHAIN 204 315 By similarity.  
 FT DISULFID 210 219 By similarity.  
 FT DISULFID 218 281 By similarity.  
 FT DISULFID 247 312 By similarity.  
 FT DISULFID 251 314 By similarity.  
 FT DISULFID 280 280 Interchain (By similarity).  
 FT CARBOHYD 7 7 N-linked (GlcNAc. . .) (By similarity).  
 FT CARBOHYD 61 61 N-linked (GlcNAc. . .) (By similarity).  
 FT CARBOHYD 101 101 N-linked (GlcNAc. . .) (By similarity).  
 FT SITE 169 171 Cell attachment site (Potential).  
 SQ SEQUENCE 315 AA; 36269 MW; C2717A3D94500E CRC64;

Query Match Score 89; DB 1; Length 315;  
 Best local Similarity 100.0%; Pred. No. 8.8e-06;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FCLGCPYIWSLDT 14  
 Db 246 FCLGCPYIWSLDT 259

RESULT 8

Q8RAD9 PRELIMINARY; PRT; 368 AA.  
 ID Q8RAD9  
 AC Q8RAD9;  
 DT 01-JUN-2002 (TREMBrel; 21, Last sequence update)  
 DT 01-JUN-2002 (TREMBrel; 21, Last annotation update)  
 DT 01-MAR-2004 (TREMBrel; 26, Last annotation update)  
 DE Transforming growth factor beta-1 protein (Fragment).  
 GN Name=TGB1;  
 OS Sigmodon hispidus (Hispid cotton rat).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Sigmodontinae;  
 OC Sigmodon.  
 OX NCBI\_TaxID=42415;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX PubMed=14980081; DOI=10.1089/107999004772719873;  
 RA Blanco J.C., Plecnova L., Boukhalova M., Richardson J.Y.,  
 RA Harris K.A., Prince G.A.;  
 RT "The cotton rat: an underutilized animal model for human infectious  
 diseases can now be exploited using specific reagents to cytokines,  
 chemokines, and interferons";  
 RT J. Interferon Cytokine Res. 24:21-28 (2004).  
 CC -!- SIMILARITY: Belongs to the TGF-beta family.  
 DR EMBL; MAF8838; AMI8719.1; -.  
 DR HSSP; P01137; I1KA.  
 DR GO; GO:000803; F-growth factor activity; IEA.  
 DR GO; GO:005160; F-transforming growth factor beta receptor bi. . .; IEA.  
 DR InterPro; IPR002400; GF\_cysknot.  
 DR InterPro; IPR003911; TGF\_betaB.  
 DR InterPro; IPR001839; TGFb.  
 DR InterPro; IPR001111; TGB\_N.  
 DR InterPro; IPR00019; TGF\_beta; I.  
 DR Pfam; PF00019; TGF beta; 1.  
 DR PRINTS; PR00438; TGFYSKNOT.  
 DR PRINTS; PR01423; TGFbeta.  
 DR PRODOM; PD000357; TGFb.  
 DR SMART; SM00204; TGBB; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 KW Growth factor.  
 FT NON\_TER 1 1  
 SEQUENCE 368 AA; 41905 MW; A5C91207B0468B4A CRC64;

Query Match Score 89; DB 2; Length 368;  
 Best Local Similarity 100.0%; Pred. No. 1e-05; Mismatches 0; Indels 0; Gaps 0;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 FCLGCPYIWSLDT 14  
 Db 299 FCLGCPYIWSLDT 312

RESULT 9

TGF1\_CANFA ID TGF1\_CANFA STANDARD; PRT; 390 AA.  
 AC P54311;  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
 GN Name=TGB1;  
 OS Canis familiaris (Dog).  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 OC Canis familiaris (Dog).  
 OX NCBI\_TaxID=9615;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=augular vein endothelial;  
 RX MEDLINE:95227630; PubMed=772110; DOI=10.1016/0378-1119(94)00903-6;  
 RA Manning A.M., Auchampach J.A., Drong R.F., Slichtom J.L.;  
 "Cloning of a canine cDNA homologous to the human transforming growth



FT SIGNAL 1 29  
 FT PROPEP 30 278  
 FT CHAIN 279 390  
 FT DISULFID 285 294  
 FT DISULFID 293 356  
 FT SITE 322 387  
 FT DISULFID 326 389  
 FT DISULFID 355 355  
 FT CARBOHYD 136 136  
 FT CARBOHYD 176 176  
 FT SITE 244 246  
 FT CONFLICT 279 279  
 FT CONFLICT 286 286  
 FT CONFLICT 309 309  
 FT CONFLICT 322 322  
 FT CONFLICT 350 350  
 SQ SEQUENCE 390 AA; 44328 MW; 1539F849BA0COFF1 CRC64;  
 Query Match 100.0%; Score 89; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.1e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QV 1 FCIGPCPYIWSDLT 14  
 Db 321 FCIGPCPYIWSDLT 334

**RESULT 11**

TPGFB1\_CERB2 STANDARD; PRT; 390 AA.

ID TPGFB1\_CERB2 STANDARD; PRT; 390 AA.

AC P09533; DR 01-MAR-1989 (Rel. 10, Created)  
 DR 05-JUL-2004 (Rel. 44, Last annotation update)

DE Transforming growth factor beta 1 precursor (TGF-beta 1).

GN Name=TGPB1; OS Cercopithecus aethiops (Green monkey) (Grivet).  
 OC Mammalia; Eutheria; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Cercopithecidae; Cercopithecinae; Cercopithecus.  
 OX NCBI\_TaxID=9534; RN [1];  
 RN SEQUENCE FROM N.A.  
 RP MEDLINE:8724074; PubMed=3474130;  
 RX GIICOSYLATION.  
 RX PubMed=2971654;  
 RA Purchio A.F., Cooper J.A., Brunner A.M., Lioubin M.N., Gentry L.B.,  
 RT "Identification of mannose 6-phosphate in two asparagine-linked sugar  
 RT chains of recombinant transforming growth factor-beta 1 precursor.";  
 RL J. Biol. Chem. 263:14211-14215 (1988).  
 RN [3];  
 RP CHARACTERIZATION.  
 RX Pubmed=3185545;  
 RA Gentry L.B., Lioubin M.N., Purchio A.F., Marquardt H.,  
 RT "Molecular events in the processing of recombinant type 1 pre-pro-  
 transforming growth factor beta to the mature polypeptide.";  
 RL Mol. Cell. Biol. 8:4162-4168 (1988).  
 CC -I- FUNCTION: Multifunctional peptide that controls proliferation,  
 differentiation, and other functions in many cell types. Many  
 cells synthesize TGF-beta 1 and essentially all of them have  
 specific receptors for this peptide. TGF-beta 1 regulates the  
 actions of many other peptide growth factors and determines a  
 positive or negative direction of their effects. Play an important  
 role in bone remodeling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and

CC -I- SUBCELLULAR LOCATION: Secreted.  
 CC -I- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP, which remains non-covalently linked to mature TGF-beta 1.  
 CC The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1;  
 CC disulfide-linked.

CC -I- SUBCELLULAR LOCATION: Secreterd.  
 CC -I- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP, which remains non-covalently linked to mature TGF-beta 1.  
 CC The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1;  
 CC disulfide-linked.

CC -I- SIMILARITY: Belongs to the TGF-beta family.

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 entities requires a license agreement (see <http://www.isb-sib.ch/announce/>  
 or send an email to license@isb-sib.ch).

CC -----  
 DR EMBL; M16658; AAA35369.1; -.  
 DR PIR; A26960; A26960.  
 DR HSSP; P01137; 1KLA.  
 DR InterPro; IPR002400; GF\_cysknot.  
 DR InterPro; IPR00391; TGFb\_TSFB.  
 DR InterPro; IPR00111; TGFb\_N.  
 DR Pfam; PF00019; TGF beta\_1.  
 DR Pfam; PF00688; TGFb propeptide\_1.  
 DR PRINTS; PRO0438; GFcysknot.  
 DR PRINTS; PRO1423; TGFbeta.  
 DR Prodom; PD000357; TGFb\_1.  
 DR SMART; SM00204; TGFb\_1.  
 DR PROSITE; PS00250; TGF BETA\_1.  
 KW Glycoprotein; Growth factor; Mitogen; Signal.

FT SIGNAL 1 29  
 FT PROPEP 30 278  
 FT CHAIN 279 390  
 FT DISULFID 285 294  
 FT DISULFID 293 356  
 FT DISULFID 322 387  
 FT DISULFID 326 389  
 FT SITE 322 387  
 FT CARBOHYD 136 136  
 FT CARBOHYD 176 176  
 FT SITE 244 246  
 SQ SEQUENCE 390 AA; 44326 MW; DPP63J2BAB4320B CRC64;  
 Query Match 100.0%; Score 89; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.1e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QV 1 FCIGPCPYIWSDLT 14  
 Db 321 FCIGPCPYIWSDLT 334

**RESULT 12**

TPGFB1\_HORSE STANDARD; PRT; 390 AA.

ID TPGFB1\_HORSE STANDARD; PRT; 390 AA.

AC O19011; DR 15-JUL-1998 (Rel. 36, Created)  
 DR 15-JUL-1998 (Rel. 36, Last sequence update)  
 DR 05-JUL-2004 (Rel. 44, Last annotation update)

DE Transforming growth factor beta 1 precursor (TGF-beta 1).

GN Name=TGPB1; OS Equus caballus (Horse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.  
 OX NCBI\_TaxID=9796; RN [1];  
 RP SEQUENCE FROM N.A.

RC TISSUE=Lymph node;  
 RX MEDLINE=98185507; PubMed=9524819;  
 RA Penha-Goncalves M.N.; Onions D.E.; Nicolson L.;  
 RT Cloning and sequencing of equine transforming growth factor-beta 1  
 RT (TGF beta-1) cDNA;"  
 RL DNA Seq. 7:375-378(1997).  
 CC -!- FUNCTION: TGF-beta is a multifunctional peptide that control  
 proliferation, differentiation, and other functions in many cell  
 types. Many cells synthesize TGF-beta and essentially all of them  
 have specific receptors for this peptide. TGF-beta regulates the  
 actions of many other peptide growth factors and determines  
 positive or negative direction of their effects. Play an important  
 role in bone remodelling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and  
 differentiation in committed osteoblasts (By similarity).  
 CC -!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 CC The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1;  
 CC disulfide-linked (By similarity).  
 CC --!- SUBCELLULAR LOCATION: Secreted.  
 CC --!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP (By similarity).  
 CC --!- SIMILARITY: Belongs to the TGF-beta family.

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 entities requires a license agreement (See <http://www.isb-sib.ch/announce/>  
 or send an email to license@isb-sib.ch).

CC EMBL: X09438; CAA67801.1; --.  
 DR HSSP: P01377; IELA.  
 DR InterPro: IPRO02400; GF\_CYSKNOT.  
 DR InterPro: IPRO03911; TGF\_beta.  
 DR InterPro: IPRO01839; TGFb.  
 DR Pfam: PF00019; TGF\_beta\_1.  
 DR Pfam: PF00688; TGFb\_propeptide; 1.  
 PRINTS: PR00438; GTOYSKNOT.  
 PRINTS: PR01423; TGFbeta.  
 DR PRODOM: PD00057; TGFb; 1.  
 DR SMART: SNO0204; TGFb; 1.  
 DR PROSITE: FS00250; TGF\_BETA\_1.  
 KW Glycoprotein; Growth factor; Mitogen; Signal.  
 FT SIGNAL 1 29  
 PROPEP 30 278  
 FT By similarity.  
 FT By similarity (By similarity)-associated peptide (By similarity).  
 FT Transforming growth factor beta 1.  
 FT CHAIN 279 390  
 FT DISULFID 285 294  
 FT DISULFID 293 356  
 FT DISULFID 322 387  
 FT DISULFID 326 389  
 FT DISULFID 355 355  
 FT DISULFID 82 82  
 FT CARBOHYD 136 136  
 FT CARBOHYD 176 176  
 SQ 390 AA; 43974 MW; A8GD154459691 CRC64;

Query Match Score 89; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.1e-05; Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 13  
 ID TGFI\_HUMAN STANDARD; PRT: 390 AA.

Db 321 FCLGCPYIWSLDT 334

AC P01137; Q9UCGA;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DT 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 25-OCT-2004 (Rel. 45, Last annotation update)  
 DB Transforming growth factor beta 1 precursor (TGF-beta 1).  
 GN Name=TGBB; Synonyms=TGBB;  
 OS Homo sapiens (Human).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 OC NCBI\_TaxID=9606;  
 RN [1] -  
 RN RPP SEQUENCE FROM N.A.  
 RX MEDLINE=87174645; PubMed=3470709;  
 RA Deryck R., Rhee L., Chen E.Y., van Tilburg A.;  
 RT "Intron-exon structure of the human transforming growth factor-beta  
 precursor gene.";  
 RA Assoian R.K., Roberts A.B., Sporn M.B., Goeddel D.V.;  
 RT Nucleic Acids Res. 15:3188-3189(1987).  
 RN [2] -  
 RN RPP SEQUENCE FROM N.A., AND VARIANT PRO-10.  
 RX MEDLINE=85296501; PubMed=3861940;  
 RA Deryck R., Jarrett J.A., Chen B.Y., Baton D.H., Bell J.R.,  
 RA Diatchenko L., Marszina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares M.B., Bonaldo M.F., Cabavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Rana S.S., Loqueland N.A., Peters G.J., Abramson R.D., Mullahy S.J.,  
 RA Bosak S.A., McBawn P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Hopkins R.P., Jordan H., Moore T., Max S.I., Wang J., Heieb F.,  
 RA Villalon D.K., Muzyk D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahey J., Heiton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,  
 RA Whiting M., Madan A., Young A.C., Shvchenko Y., Bouffard G.G.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grinwood J.J., Schmutz J., Myers R.M.,  
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalius D.E.,  
 RA Schnurch A., Schein J.E., Jones S.J.M., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 RN [4] -  
 RN RPP SEQUENCE OF 279-390 FROM N.A.  
 RC TISSUE=Carcinoma;  
 RA Urushizaki Y., Niitsu Y., Terui T., Kashida Y., Mahara K., Kohgo Y.,  
 RA Urushizaki I., Takashashi Y., Ito H.;  
 RT "Cloning and expression of the gene for human transforming growth  
 RT factor-beta 1 in Escherichia coli.";  
 RT Tumor Res. 22:41-55(1987).  
 RN [5] -  
 RN RPP SEQUENCE OF 279-329.  
 RC TISSUE=Bladder carcinoma;  
 RX MEDLINE=9322900; PubMed=8471846; DOI=10.1006/prep.1993.1119;  
 RA Bourdel L., Lin C.-H., Lauren S.L., Elmore R.H., Sugarmann B.J.,  
 RA Hu S., Westcott K.R.;  
 RT "Recombinant human transforming growth factor-beta 1: expression by  
 RT Chinese hamster ovary cells, isolation, and characterization.";  
 RT Protein Expr. Purif. 4:130-140(1993).  
 RN [6] -  
 RN RPP SEQUENCE OF 279-301.  
 RX MEDLINE=8513019; PubMed=2982829;  
 RA Massague J., Like B.;  
 RT "Cellular receptors for type beta transforming growth factor. Ligand  
 RT binding and affinity labeling in human and rodent cell lines.";  
 J. Biol. Chem. 260:2636-2645(1985).

- RN [7] SEQUENCE OF 30-42 AND 279-290, AND CHARACTERIZATION.  
 RP PubMed=3162913;  
 RA Mizazono K., Hellman U., Wernstedt C., Heldin C.H.;  
 RT "latent high molecular weight complex of transforming growth factor  
 beta 1. Purification from human platelets and structural  
 characterization."; J. Biol. Chem. 263:6407-6415(1988).  
 RL RN [8] REVIEW.  
 RP PubMed=9150447;  
 RA Munger J.S., Harpel J.G., Gleizes P.E., Mazzieri R., Nunes I.,  
 RA Riffkin D.B.;  
 RT "latent transforming growth factor-beta: structural features and  
 mechanisms of activation.";  
 RL Kidney Int. 51:1376-1382(1997).  
 RN [9] STRUCTURE BY NMR OF 279-390.  
 RX MEDLINE=93114319; PubMed=8424942;  
 RA Archer S.J., Bax A., Roberts A.B., Sporn M.B., Ogawa Y., Piez K.A.,  
 RA Weatherbee J.A., Tsang M.L.-S., Lucas R., Zheng B.-L., Wenker J.,  
 RA Torchia D.A.;  
 RT "Transforming growth factor beta 1: NMR signal assignments of the  
 recombinant protein expressed and isotopically enriched using Chinese  
 hamster ovary cells.";  
 RL Biochemistry 32:1152-1163(1993).  
 RN [10] STRUCTURE BY NMR OF 279-390.  
 RX MEDLINE=93114320; PubMed=8424943;  
 RA Archer S.J., Bax A., Roberts A.B., Sporn M.B., Ogawa Y., Piez K.A.,  
 RA Weatherbee J.A., Tsang M.L.-S., Lucas R., Zheng B.-L., Wenker J.,  
 RA Torchia D.A.;  
 RT "Transforming growth factor beta 1: secondary structure as determined  
 by heteronuclear magnetic resonance spectroscopy.";  
 RL Biochemistry 32:1164-1171(1993).  
 RN [11] STRUCTURE BY NMR OF 279-390.  
 RX MEDLINE=96266150; PubMed=8679613; DOI=10.1021/bi9604946;  
 RA Hinck A.P., Archer S.J., Qian S.W., Roberts A.B., Sporn M.B.,  
 RA Weatherbee J.A., Tsang M.L.-S., Lucas R., Zheng B.-L., Wenker J.,  
 RA Torchia D.A.;  
 RT "Transforming growth factor beta 1: three-dimensional structure in  
 solution and comparison with the X-ray structure of transforming  
 growth factor beta 2.";  
 RL Biochemistry 35:8517-8534(1996).  
 RN [12] TISSUE SPECIFICITY.  
 RX PubMed=11746498; DOI=10.1002/jcb.1249;  
 RA Shir J., Dokte F., Bleiberg I., Benayahu D.;  
 RT "Shir J., Dokte F., Bleiberg I., Benayahu D.;  
 J. Cell. Biochem. 83:547-553(2001).  
 RN [13] VARIANT PRO-10.  
 RX PubMed=978355;  
 RA Yamada Y., Miyazaki A., Goto J., Takagi Y., Okuzumi H., Kanematsu M.,  
 RA Hase M., Takai H., Harada A., Ikeda K.;  
 RT "Association of a polymorphism of the transforming growth factor-beta1  
 gene with genetic susceptibility to osteoporosis in postmenopausal  
 Japanese women.";  
 RL J. Bone Miner. Res. 13:1569-1576(1998).  
 RN [14] VARIANTS CED CYS-218; HIS-218 AND ARG-225.  
 RX PubMed=10973241; DOI=10.1038/79128;  
 RA Kimochi A., Saito T., Tomita H., Makita Y., Yoshida K., Ghadami M.,  
 RA Yamada K., Kondo S., Ikegawa S., Nishimura G., Fukushima Y.,  
 RA Nakagomi T., Saito H., Sugimoto T., Kamegaya M., Hisa K., Murray J.C.,  
 RA Taniguchi N., Nikawa N., Yoshiura K.;  
 RT "Domain-specific mutations in TGFB1 result in Camurati-Engelmann  
 disease.";  
 RL Nat. Genet. 26:19-20(2000).  
 RN [15] VARIANTS CED HIS-81; CYS-218 AND ARG-225.  
 RX PubMed=11062463; DOI=10.1038/81563;
- RN [16] VARIANT PRO-10.  
 RP PubMed=12202987; DOI=10.1007/s100380200069;  
 RA Watanabe Y., Kinoshita A., Yamada T., Ohta T., Kishino T.,  
 RA Matsumoto N., Ishikawa M., Niikawa N., Yoshiura K.;  
 RT "A catalog of 106 single-nucleotide polymorphisms (SNPs) and 11 other  
 types of variations in genes for transforming growth factor-beta1  
 (TGF-beta1) and its signaling pathway.";  
 RL J. Hum. Genet. 47:478-483(2002).  
 RN [17] CHARACTERIZATION OF VARIANTS CED HIS-81; CYS-218; ASP-222 AND ARG-225.  
 RX PubMed=12493741; DOI=10.1074/jbc.M208857200;  
 RA Janssens K., ten Dijke P., Raistron S.H., Bergmann C., Van Hul W.;  
 RT "Transforming growth factor-beta-1 mutations in Camurati-Engelmann  
 disease lead to increased signaling by altering either activation or  
 secretion of the mutant protein.";  
 RL J. Biol. Chem. 278:7718-7724(2003).  
 RN [18] CHARACTERIZATION OF VARIANT CYS-218.  
 RX PubMed=12843182; DOI=10.1210/jc.2002-020564;  
 RA McGowan N.W., Macpherson H., Janssens K., Van Hul W., Frith J.C.,  
 RA Fraser W.D., Raistron S.H., Helfrich M.H.;  
 RT "A mutation affecting the latency-associated peptide of TGFbeta1 in  
 Camurati-Engelmann disease enhances osteoclast formation in vitro.";  
 RL Clin. Endocrinol. Metab. 88:321-326(2003).  
 CC -!- FUNCTION: Multifunctional peptide that controls proliferation,  
 differentiation, and other functions in many cell types. Many  
 cells synthesize TGF-beta 1 and essentially all of them have  
 specific receptors for this peptide. TGF-beta 1 regulates the  
 actions of many other peptide growth factors and determines a  
 positive or negative direction of their effects. Play an important  
 role in bone remodelling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and  
 differentiation in committed osteoblasts (by similarity).  
 CC -!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 CC The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1;  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- TISSUE SPECIFICITY: Highly expressed in bone.  
 CC -!- INDUCTION: Activated in vitro at pH below 3.5 and over 12.5.  
 CC -!- PRM: Glycosylated (By similarity). The precursor is cleaved into  
 mature TGF-beta 1 and LAP.  
 CC -!- POLYMORPHISM: In post-menopausal Japanese women, the frequency of  
 Leu-10 is higher in subjects with osteoporosis than in controls.  
 CC -!- DISEASE: Defects in TGFB1 are the cause of Camurati-Engelmann
- Query Match 100.0%; Score 69; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.1e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
- | QY | 1   | PCLGCPYIWSLDT 14  |
|----|-----|-------------------|
| DB | 321 | PCLGCPYIWSLDT 334 |
- Janssens K., Gershoni-Baruch R., Guanabens N., Migone N., Raistron S.,  
 Bonduelle M., Lissens W., Van Maldergem L., Vanhoenacker F.,  
 Vertruggen L., Van Hul W.,  
 "Mutations in the gene encoding the latency-associated peptide of TGF-  
 beta 1 cause Camurati-Engelmann disease.";  
 Nat. Genet. 26:273-275(2000).
- Variants CED HIS-81; CYS-218 AND ARG-225.  
 PubMed=11062463; DOI=10.1038/81563;
- Janssens K., Gershoni-Baruch R., Guanabens N., Migone N., Raistron S.,  
 Bonduelle M., Lissens W., Van Maldergem L., Vanhoenacker F.,  
 Vertruggen L., Van Hul W.,  
 "Mutations in the gene encoding the latency-associated peptide of TGF-  
 beta 1 cause Camurati-Engelmann disease.";  
 Nat. Genet. 26:273-275(2000).
- Janssens K., Gershoni-Baruch R., Guanabens N., Migone N., Raistron S.,  
 Bonduelle M., Lissens W., Van Maldergem L., Vanhoenacker F.,  
 Vertruggen L., Van Hul W.,  
 "Mutations in the gene encoding the latency-associated peptide of TGF-  
 beta 1 cause Camurati-Engelmann disease.";  
 Nat. Genet. 26:273-275(2000).
- Janssens K., Gershoni-Baruch R., Guanabens N., Migone N., Raistron S.,  
 Bonduelle M., Lissens W., Van Maldergem L., Vanhoenacker F.,  
 Vertruggen L., Van Hul W.,  
 "Mutations in the gene encoding the latency-associated peptide of TGF-  
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OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 OC NCBI\_TaxID=10090;  
 RN [1]  
 SEQUENCE FROM N.A.  
 RP MEDLINE-86168129;  
 RA Deryck R., Jarrett J.A., Chen B.Y., Goeddel D.V.;  
 RT "The murine transforming growth factor-beta precursor.";  
 RL J. Biol. Chem. 261:4377-4379(1986).  
 RN [2]  
 SEQUENCE FROM N.A.  
 RP STRAIN=BALB/c;  
 RX MEDLINE-96096545; PubMed=8522200; DOI=10.1016/0378-1119(95)00460-N;  
 RA Guron C., Sudarshan C., Raghav R.;  
 RT "Molecular organization of the gene encoding murine transforming  
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 RL Gene 165:325-326(1995).  
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 RP STRAIN=CF1BL/6, and NOD/LT; TISSUE=Spleen;  
 RC Poirier L., Benoist C., Mathis D.;  
 RT "Transforming growth factor-beta 1 sequence and expression: no  
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 RT Submitted (AUG-1998) to the EMBL/GenBank/DDJB databases.  
 RN [4]  
 SEQUENCE FROM N.A.  
 RP STRAIN=FVB/N; TISSUE=Mammary gland;  
 RX MEDLINE-22380257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
 RA Strausberg R.L., Peingold E.A., Grouse L.H., Dege J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Sheinman C.M., Schuler G.D.,  
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 RA Diatchenko L., Matsunaga K., Farmer T., Rubin G.M., Hong L.,  
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 RA Bokoch S.A., McEwan P.J., McKernan K.J., Malek J.A., Guarante P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Faney J., Heitton B., Keeteman M., Madan A., Rodrigues S., Sanchez A.,  
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grinbaum J., Schmutz J., Myers R.M.,  
 RA Butterfield Y.S.N., Krzywinski M.I., Stalska U., Smalius D.E.,  
 RA Schnierch A., Schein J.E., Jones S.J.M., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 and mouse cDNA sequences.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).  
 CC --!- FUNCTION: TGF-beta is a multifunctional peptide that control  
 CC proliferation, differentiation, and other functions in many cell  
 CC types. Many cells synthesize TGF-beta and essentially all of them  
 CC have specific receptors for this peptide. TGF-beta regulates the  
 CC actions of many other peptide growth factors and determines a  
 CC positive or negative direction of their effects. Play an important  
 CC role in bone remodelling. It is a potent stimulator of  
 CC osteoblastic bone formation, causing chemotaxis, proliferation and  
 CC differentiation in committed osteoblasts (By similarity).  
 CC -!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 CC covalently linked to a latency-associated peptide (LAP) homodimer.  
 CC The inactive complex can contain a latent TGF-beta binding  
 CC protein. The active form is a homodimer of mature TGF-beta 1;  
 CC disulfide-linked (By similarity).  
 CC -!- SUBCELLULAR LOCATION: secreted.  
 CC --!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 CC and LAP (By similarity).  
 CC -!- SIMILARITY: Belongs to the TGF-beta family.  
 CC  
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
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 CC the European Bioinformatics Institute. There are no restrictions on its  
 CC use by non-profit institutions as long as its content is in no way  
 CC modified and this statement is not removed. Usage by and for commercial  
 CC entities requires a license agreement (see <http://www.isb-sib.ch/announce/>)

CC or send an email to license@isb-sib.ch).

CC -----

CC  
 CC  
 DR EMBL; M13177; AAA40423\_1; .  
 DR EMBL; L42462; AAB00138\_1; .  
 DR EMBL; L42456; AAB00138\_1; JOINED.  
 DR EMBL; L42457; AAB00138\_1; JOINED.  
 DR EMBL; L42458; AAB00138\_1; JOINED.  
 DR EMBL; L42459; AAB00138\_1; JOINED.  
 DR EMBL; L42460; AAB00138\_1; JOINED.  
 DR EMBL; L42461; AAB00138\_1; JOINED.  
 DR EMBL; AU009862; CA008900\_1; .  
 DR EMBL; BC013738; AAC013738\_1; .  
 DR PIR; A01396; WFMS2.  
 DR HSSP; P01137; IKA.  
 DR MGD; MGI\_987275; Tfbl.  
 DR GO; GO\_0005575; C:extracellular matrix; IDA.  
 DR GO; GO\_0006954; P:inflammatory response; IMP.  
 DR GO; GO\_0007515; P:lymph gland development; IMP.  
 DR GO; GO\_0008220; P:necrosis; IMP.  
 DR GO; GO\_0006468; P:regulation of cell proliferation; IDA.  
 DR GO; GO\_0016202; P:regulation of myogenesis; IDA.  
 DR GO; GO\_0042306; P:regulation of protein-nucleus import; IDA.  
 DR GO; GO\_001729; P:regulation of growth factor beta receptor si. . . ; IDA.  
 DR InterPro; IPR02400; GF\_CYSN01.  
 DR InterPro; IPR03911; TGF\_beta.  
 DR InterPro; IPR001839; TGFb\_N.  
 DR PROSITE; PS00250; TGF\_BETA\_1.  
 KW GLYcoprotein; Growth Factor; Mitogen; Signal.  
 FT SIGNAL; 1 29  
 DR PRINTS; PR00438; GRCYSN01.  
 DR PRIMIS; PR01423; TGFbeta.  
 DR PROBEM; PD00357; TGFb\_1.  
 DR PROSITE; PS00250; TGF\_BETA\_1.  
 FT PROBP 30 278  
 FT CHAIN 279 390  
 FT DISULFID 285 294  
 FT DISULFID 293 356  
 FT DISULFID 322 387  
 FT DISULFID 326 389  
 FT DISULFID 355 355  
 FT CARBOHYD 82 82  
 FT CARBOHYD 136 136  
 FT CARBOHYD 176 176  
 FT SITE 244 246  
 SQ SEQUENCE 390 AA; 44310 MW; 4381A1B71D6893 CRC24;  
 Query Match 100.0%; Score 89; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.1e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 OY 1 FC1GRCPCPYIWSLDT 14  
 DB 321 FC1GRCPCPYIWSLDT 334

RESULT 15

TGF1\_PIG  
 ID\_TGF1\_PIG STANDARD; PRT; 390 AA.  
 AC P07200; P08832;  
 DT 01-APR-1988 (Rel. 07, Created)  
 DT 01-APR-1988 (Rel. 07, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
 Name=TGFb1;  
 OS sus scrofa (Pig).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.  
 OC NCBI\_TaxID=9823;  
 RN {1}  
 SEQUENCE FROM N.A.

RC TISSUE-Ovary;  
 RX MEDLINE=87114844; PubMed=3470708;  
 RA Darynck R.; Rhee L.; "Sequence of the porcine transforming growth factor-beta precursor.";  
 RT "sequence of the porcine transforming growth factor-beta precursor.";  
 RL Nucleic Acids Res. 15:3187-3187(1987).  
 RN [2]  
 RP SOURCE FROM N.A., AND VARIANT VAL-114.  
 RC STRAIN=Minature swine;  
 RX MEDLINE=89041010; PubMed=2461367;  
 RA Kondaiah P.; van Obberghen-Schilling E.; Ludwig R.L.; Dhar R.;  
 RA Sporn M.B.; Roberts A.B.;  
 RT "cDNA cloning of porcine transforming growth factor-beta 1 mRNAs.  
 RT Evidence for alternate splicing and polyadenylation.";  
 RL J. Biol. Chem. 263:18313-18317(1988).  
 RN [3]  
 RP SEQUENCE FROM N.A., AND VARIANT VAL-114.  
 RX MEDLINE=88335639; PubMed=3166520;  
 RA Jakowlew S.B.; Dillard P.J.; Sporn M.B.; Roberts A.B.;  
 RT "Nucleotide sequence of chicken transforming growth factor-beta 1  
 RT (TGF-beta 1)." ;  
 RL Nucleic Acids Res. 16:8730-8730(1988).  
 RN [4]  
 RP SHOWS THAT REP.3 SEQUENCE IS FROM PIG.  
 RA Jakowlew S.B.;  
 RL Unpublished observations (MAR-1996).  
 RN [5]  
 RP SEQUENCE FROM N.A., AND VARIANT VAL-114.  
 RA Wimmers K.; Chomdej S.; Ponukalill S.; Schellander K.;  
 RT "Polymorphism in the porcine transforming growth factor beta 1 gene.";  
 RL Submitted (DEC-2001) to the EMBL/GenBank/dDBJ databases.  
 RN [6]  
 RP SEQUENCE OF 279-322.  
 RX MEDLINE=87105890; PubMed=2879635; DOI=10.1016/0092-8674(87)90192-9;  
 RA Cheifetz S.; Weatherbee J.A.; Tsang M.L.S.; Anderson J.K.; Mole J.E.;  
 RT "The transforming growth factor-beta system, a complex pattern of  
 RT cross-reactive ligands and receptors.";  
 RL Cell 48:419-415(1987).  
 CC FUNCTION: TGF-beta is a multifunctional peptide that control  
 proliferation, differentiation, and other functions in many cell  
 types. Many cells synthesise TGF-beta and essentially all of them  
 have specific receptors for this peptide. TGF-beta regulates the  
 actions of many other peptide growth factors and determines a  
 positive or negative direction of their effects. Play an important  
 role in bone remodelling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and  
 differentiation in committed osteoblasts (By similarity).  
 -!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1;  
 CC -!- DISULFIDE-LINKED (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP (By similarity).  
 CC -!- SIMILARITY: Belongs to the TGF-beta family.  
 CC -!- CAUTION: Ref.3 Sequence which was said to originate from chicken  
 white leghorn, seems (Ref.4) to originate from pig.  
 CC  
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 the European Bioinformatics Institute. There are no restrictions on its  
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 entities requires a license agreement (See <http://www.isb-sib.ch/announce/>  
 or send an email to license@isb-sib.ch).  
 CC  
 DR HSSP; P01137; 1KLA.  
 DR InterPro; IPR02400; CP\_CYSKNOT.  
 DR InterPro; IPR003911; TGF\_TGFB.  
 DR InterPro; IPR001339; TGFB.  
 DR InterPro; IPR01111; TGFB\_N.  
 DR Pfam; PF0019; TGF\_beta\_1.  
 DR Pfam; PP00688; TGF\_beta\_propeptide; 1.  
 DR Prints; PRO438; GFCYSKNOT.  
 DR Prints; PRO423; TGFBETA.  
 DR Prodom; PD000357; TGFB.  
 DR SMART; SM0204; TGFB\_1.  
 DR PROSITE; PS00250; TGF\_BETA\_1\_1.  
 KW Direct protein sequencing; Glycoprotein; Growth factor; Mitogen;  
 KW Polymorphism; Signal; By similarity.  
 FT SIGNAL 1 29 By similarity.  
 FT PROPEP 30 278 Latency-associated peptide.  
 FT CHAIN 279 390 Transforming growth factor beta 1.  
 FT DISULFID 285 294 By similarity.  
 FT DISULFID 293 356 By similarity.  
 FT DISULFID 322 387 By similarity.  
 FT DISULFID 326 389 By similarity.  
 FT DISULFID 355 355 By similarity.  
 FT CARBOHYD 82 82 By similarity.  
 FT CARBOHYD 136 136 By similarity.  
 FT CARBOHYD 176 176 By similarity.  
 FT SITE 246 246 By similarity.  
 FT VARIANT 114 114 By similarity.  
 FT CONFLICT 6 7 Cell attachment site (Potential).  
 FT CONFLICT 180 180 N-linked (GlcNAc. . .) (By similarity).  
 FT CONFLICT 237 237 N-linked (GlcNAc. . .) (By similarity).  
 FT CONFLICT 237 237 N-linked (GlcNAc. . .) (By similarity).  
 SQ SEQUENCE 390 AA; 44294 MW; A6E2C3659FC384E6 CRC64;  
 Query Match 100.0%; Score 89; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.1e-05;  
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Db 321 FCLGCPYVWSLDT 334  
 Search completed: June 14, 2005, 15:51:06  
 Job time : 74.8462 secs

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OM protein - protein search, using sw model  
Run on: June 14, 2005, 15:29:15 ; Search time 131.808 Seconds  
(without alignments)

Perfect score: US-09-831-253P-10  
Sequence: 1 HEPKGKMANFCLGPCPYIWSDLT 23  
Scoring table: BLOSUM62  
Gapop 10.0 , Gapext: 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692  
Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_16dec04,\*  
1: geneseqp1980s,\*  
2: geneseqp1990s,\*  
3: geneseqp2000s,\*  
4: geneseqp2001s,\*  
5: geneseqp2002s,\*  
6: geneseqp2003as,\*  
7: geneseqp2003bs,\*  
8: geneseqp2004as,\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result No.	Score	Query Match Length	DB ID	Description
1	145	100.0	23	AAY92983 Transform
2	145	100.0	23	AAY92954 Transform
3	145	100.0	50	AAR90288 Pre-trans
4	145	100.0	51	AAR04075 Sequence
5	145	100.0	51	AAW78788 Human tra
6	145	100.0	51	Abb43879 Peptide #
7	145	100.0	51	Aaa37799 Peptide #
8	145	100.0	51	Aam77605 Human bon
9	145	100.0	51	Abg46640 Human pep
10	145	100.0	60	ABR68685 Human TGF
11	145	100.0	62	Aaw30331 Fragment
12	145	100.0	65	Abb22135 PDGI subu
13	145	100.0	98	Aay16697 WO9914235
14	145	100.0	98	Aay92554 TGB-beta
15	100.0	98	3	Aab09519 Human TGF
16	145	100.0	98	Aab02785 Human TGF
17	145	100.0	112	Aar08142 Platelet-
18	145	100.0	112	Aar04076 Sequence
19	145	100.0	112	Aar12402 Transform
20	145	100.0	112	Aar22134 PDGI subu
21	145	100.0	112	Aar42263 TGF-beta
22	145	100.0	112	Aar42311 Recombina
23	145	100.0	112	Aar92773 Human TGF
24	145	100.0	112	Aar91956 Human tra
25	100.0	112	2	Aaw08173 TGF-beta

ALIGNMENTS

RESULT 1	ID	AA	AA	AA
AAY92983	XX	XX	XX	XX
08-NOV-2000	DT	XX	XX	XX
Transforming growth factor inhibitory peptide P29.	XX	XX	XX	XX
KW Hepatotropic; antagonist; transforming growth factor betal; TGF-b1; competitive inhibition; collagen synthesis stimulation inhibitor; liver; extracellular matrix degradation inhibitor; mimetope; cirrosis.	KW	KW	KW	KW
OS Homo sapiens.	OS	OS	OS	OS
BN WO20031135-A1.	BN	BN	BN	BN
02-JUN-2000.	BD	BD	BD	BD
PR 23-NOV-1999;	XX	XX	XX	XX
PR 24-NOV-1998;	XX	XX	XX	XX
PR (CIENT.- INST CIENTIFICO & TECNOLOGICO NAVARRA.	PA	PA	PA	PA
PI Ezquerro Saenz IJ, Lasarte Sagastibarria JJ, Prieto Valtuena J;	PI	PI	PI	PI
PI Borras Cuesta F;	PI	PI	PI	PI
DR WPI; 2000-411935/35.	DR	DR	DR	DR
PT Peptides that antagonize binding of transforming growth factor beta, useful for treatment of liver disease, especially cirrhosis, are partial sequences of the factor or its receptors.	PT	PT	PT	PT
PT Disclosure; Page 24; 86pp; Spanish.	PT	PT	PT	PT

The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta1 to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-beta1 and/or its receptors. Peptides AAY9245-Y3133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-beta1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimetics and/or DNA (or RNA) expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis

XX  
SQ Sequence 23 AA:  
 Query Match 100.0%; Score 145; DB 3; Length 23;  
 Best Local Similarity 100.0%; Pred. No. 4.3e-12; Mismatches 0;  
 Matches 23; Conservative 0; Indels 0; Gaps 0;  
 QY 1 HEPKGHANFCLGPCPYIWSLDT 23  
 Db 1 HEPKGHANFCLGPCPYIWSLDT 23

RESULT 2  
 AAY92954  
 ID AAY92954 Standard; peptide; 23 AA.  
 XX  
 AC AAY92954;  
 XX  
 DT 08-NOV-2000 (first entry)  
 DE Transforming growth factor inhibitory peptide #10.  
 XX  
 KW Hepatotropic; antagonist; transforming growth factor beta 1; TGF-b1; liver;  
 KW competitive inhibition; collagen synthesis stimulation inhibitor; mimotope; cirrhosis.  
 KW extracellular matrix degradation inhibitor; mimotope; cirrhosis.  
 KW Homo sapiens.  
 XX  
 PA WO20031135-A1.  
 XX  
 PD 02-JUN-2000.  
 XX  
 PP 23-NOV-1999; 99WO-ES000375.  
 PR 24-NOV-1998; 98ES-0002465.  
 XX  
 PA (CEN-) INST CIENTIFICO & TECNOLÓGICO NAVARRA.  
 XX  
 PI Ezquerro Saenz IJ, Lasarte Sagastibelza JJ, Prieto Valtuena J;  
 PI Borras Cuesta F;  
 XX  
 DR WPI; 2000-411935/35.  
 XX  
 PT Peptides that antagonize binding of transforming growth factor beta 1, useful for treatment of liver disease, especially cirrhosis, are partial sequences of the factor or its receptors.  
 XX  
 PS Claim 11; Page 82; 86pp; Spanish.  
 XX  
 CC The invention relates to synthetic peptides that antagonise the binding of transforming growth (TGF) factor beta 1 (TGF-b1) to its receptor in vivo which have partial amino acid sequences identical, or similar, with those of TGF-b1 and/or its receptors. Peptides AAY9295-Y03133 represent examples of the peptides of the invention. The peptides act by competitive inhibition of the binding of TGF-b1 to its receptors, e.g. they are inhibitors of stimulation of collagen synthesis in liver cells and inhibitors of synthesis of proteolytic enzymes able to degrade the extracellular matrix. The peptides, their mimotopes and/or DNA (or expression systems) encoding the peptides are used for treatment of liver disease, specifically cirrhosis.  
 XX  
 SQ Sequence 23 AA;  
 Query Match 100.0%; Score 145; DB 3; Length 23;  
 Best Local Similarity 100.0%; Pred. No. 4.3e-12; Mismatches 0;  
 Matches 23; Conservative 0; Indels 0; Gaps 0;  
 QY 1 HEPKGHANFCLGPCPYIWSLDT 23  
 Db 1 HEPKGHANFCLGPCPYIWSLDT 23

RESULT 3  
 AR90828  
 ID AR90828 Standard; peptide; 50 AA.  
 XX  
 AC AR90828;  
 XX  
 DT 25-MAR-2003 (revised)  
 DE Pre-transforming growth factor beta 1 residues 252 to 302.  
 XX  
 KW transforming growth factor beta 1; wound healing; recombinant production.  
 XX  
 OS Homo sapiens.  
 XX  
 PN US5482851-A.  
 XX  
 PD 09-JAN-1996.  
 XX  
 PF 05-NOV-1993; 93US-00147364.  
 XX  
 PR 22-MAR-1985; 85US-00715142.  
 PR 13-MAR-1987; 87US-00025423.  
 PR 04-AUG-1989; 89US-00389929.  
 PR 04-MAR-1992; 92US-00845893.  
 XX  
 PA (GERTH ) GENENTECH INC.  
 XX  
 PI Goeddel DV, Deryck RMA;  
 XX  
 DR WPI; 1996-076891/08.  
 XX  
 DR N-PSDB; AAT15721.  
 XX  
 PT New recombinant human transforming growth factor-beta prods. - produced using Chinese hamster ovary cells, for use in diagnostic applications or in therapy.  
 XX  
 PS Example 2; Fig 2; 26pp; English.  
 XX  
 CC The transforming growth factor (TGF) beta 1 exon (residues 252 to 302) was identified using the "long probe" strategy used previously for TGF-alpha. Long oligonucleotides (r1572-23) designed on the basis of the partial protein sequence were used as hybridisation probes for the exon CC in a human genomic DNA library. The TGF beta 1 exon was then used as a probe for the isolation of TGF beta 1 cDNA (see AAT1570). DNA encoding TGF beta 1 is useful for the recombinant production of the protein, which is useful in, e.g. wound healing. (Updated on 25-MAR-2003 to correct PF field.)  
 XX  
 SQ Sequence 50 AA;  
 Query Match 100.0%; Score 145; DB 2; Length 50;  
 Best Local Similarity 100.0%; Pred. No. 8.7e-12; Mismatches 0;  
 Matches 23; Conservative 0; Indels 0; Gaps 0;  
 QY 1 HEPKGHANFCLGPCPYIWSLDT 23  
 Db 25 HEPKGHANFCLGPCPYIWSLDT 47

RESULT 4  
 AAR04075  
 ID AAR04075 standard; protein; 51 AA.  
 XX  
 AC AAR04075;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 31-OCT-2002 (rev.Bed)  
 DT 31-MAY-1989 (first entry)  
 XX  
 DE Sequence of genomic fragment encoding a TGF-beta 1 exon.  
 XX  
 KW Transforming growth factor beta-3 (TGF beta 3); tumour cells; growth inhibition.

RESULT 5  
 AR90828  
 ID AR90828 Standard; peptide; 50 AA.  
 XX  
 AC AR90828;  
 XX  
 DT 25-MAR-2003 (revised)  
 DE Pre-transforming growth factor beta 1 residues 252 to 302.  
 XX  
 KW transforming growth factor beta 1; wound healing; recombinant production.  
 XX  
 OS Homo sapiens.  
 XX  
 PN US5482851-A.  
 XX  
 PD 09-JAN-1996.  
 XX  
 PF 05-NOV-1993; 93US-00147364.  
 XX  
 PR 22-MAR-1985; 85US-00715142.  
 PR 13-MAR-1987; 87US-00025423.  
 PR 04-AUG-1989; 89US-00389929.  
 PR 04-MAR-1992; 92US-00845893.  
 XX  
 PA (GERTH ) GENENTECH INC.  
 XX  
 PI Goeddel DV, Deryck RMA;  
 XX  
 DR WPI; 1996-076891/08.  
 XX  
 DR N-PSDB; AAT15721.  
 XX  
 PT New recombinant human transforming growth factor-beta prods. - produced using Chinese hamster ovary cells, for use in diagnostic applications or in therapy.  
 XX  
 PS Example 2; Fig 2; 26pp; English.  
 XX  
 CC The transforming growth factor (TGF) beta 1 exon (residues 252 to 302) was identified using the "long probe" strategy used previously for TGF-alpha. Long oligonucleotides (r1572-23) designed on the basis of the partial protein sequence were used as hybridisation probes for the exon CC in a human genomic DNA library. The TGF beta 1 exon was then used as a probe for the isolation of TGF beta 1 cDNA (see AAT1570). DNA encoding TGF beta 1 is useful for the recombinant production of the protein, which is useful in, e.g. wound healing. (Updated on 25-MAR-2003 to correct PF field.)  
 XX  
 SQ Sequence 50 AA;  
 Query Match 100.0%; Score 145; DB 2; Length 50;  
 Best Local Similarity 100.0%; Pred. No. 8.7e-12; Mismatches 0;  
 Matches 23; Conservative 0; Indels 0; Gaps 0;

XX  
OS Homo sapiens.  
XX  
PN WO8912101-A.  
XX  
PD 14-MPC-1989.  
XX  
PF 08-JUN-1988; 88WO-US001945.  
XX  
PR 08-JUN-1988; 88WO-US001945.  
XX  
PA (GETH ) GENENTECH INC.  
XX  
PI Dernyck RMA, Goeddel DV;  
XX  
DR WPI: 1990-007474/01.  
DR P-PSDB; AIA04075.  
XX  
PT Nucleotide sequence encoding transforming growth factor beta-3 - used as  
PT a probe, or to produce tgf beta-3, for growth inhibition of certain  
PT normal and neoplastic cells, e.g. A549.  
PS Disclosure; Fig 2; 61pp; English.  
XX  
CC This sequence encodes an exon of transforming growth factor-beta 1 (TGF-  
CC beta 1) polypeptide corresponding to AA's 288-338 of mature TGF-beta 1.  
CC The nucleic acid sequence encoding the second subtype of TGF-beta (TGF-  
beta 3) is useful as a probe or to produce TGF-beta 3 for both normal and  
CC neoplastic cell growth inhibition. (Updated on 31-OCT-2002 to add missing  
CC OS field.) (Updated on 25-MAR-2003 to correct PR field.) (Updated on 25-  
CC MAR-2003 to correct PI field.)  
XX  
SQ Sequence 51 AA;

Query	Match	Score	DB	Length
Best	Local Similarity	100.0%	2	51
Matches	Conservative	100.0%	Pred. No.	8.9e-12;
	Mismatches	0	Indels	0;
QY	1 HEPKGHANFCLGRCPYIWSLDT 23		Gaps	0;
Db	25 HEPKGHANFCLGRCPYIWSLDT 47			

RESULT 5  
AAW78788  
ID AAW78788 standard; protein; 51 AA.  
XX  
AC AAW78788;  
XX  
DT 25-MAR-2003 (revised)  
DT 21-DEC-1998 (first entry)  
XX  
DB Human transforming growth factor-beta fragment (aa288-338).  
XX  
KW Transforming growth factor-beta 1; TGF-beta 1; human.  
XX  
OS Homo sapiens.  
XX  
PN US5801231-A.  
XX  
PD 01-SEP-1998.  
XX  
PF 30-MAY-1995; 95US-00454468.  
XX  
PR 22-MAR-1985; 85US-00715142.  
PR 13-MAR-1987; 87US-00025423.  
PR 04-AUG-1989; 89US-00399929.  
PR 04-MAR-1992; 92US-00845893.  
XX  
PA (GETH ) GENENTECH INC.  
XX  
PI Derynck RMA, Goeddel DV;

XX  
OS WPI; 1998-494940/42.  
DR N-PSDB; AIAV52936.  
XX  
PT DNA encoding transforming growth factors - useful  
PT for analysis to perform manipulations to increase yield of recombinant  
PT production of the protein.  
XX  
PS Example 2; Fig 2; 26pp; English.  
XX  
CC This polypeptide comprises amino acid residues 288-338 of human  
CC transforming growth factor-beta 1 precursor (proto-TGF-beta 1, see also  
CC AAW78785). It is encoded by an isolated fragment (see AAV52936) of the  
CC TGF-beta 1 gene. The invention relates to the recombinant production of  
CC TGF-beta. Nucleic acids encoding TGF-beta have been isolated and cloned  
CC into vectors which are replicated in bacteria and expressed in eukaryotic  
CC cells. TGF-beta recovered from transformed cells is used in known  
CC therapeutic applications. (Updated on 25-MAR-2003 to correct PF field.)  
XX  
SQ Sequence 51 AA;  
Query Match 100.0%; Score 145; DB 2; Length 51;  
Best Local Similarity 100.0%; Pred. No. 8.9e-12; Mismatches 0; Indels 0; Gaps 0;  
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 HEPKGHANFCLGRCPYIWSLDT 23  
Db 25 HEPKGHANFCLGRCPYIWSLDT 47  
RESULT 6  
ABB43879  
ID ABB43879 standard; peptide; 51 AA.  
XX  
AC ABB43879;  
XX  
DT 04-FEB-2002 (first entry)  
DB Peptide #11385 encoded by human foetal liver single exon probe.  
XX  
KW Human; foetal liver; gene expression; single exon nucleic acid probe.  
XX  
OS Homo sapiens.  
XX  
PN WO200157277-A2.  
XX  
PD 09-AUG-2001.  
XX  
PR 30-JAN-2001; 2001WO-US000669.  
XX  
PR 04-FEB-2000; 2000US-0180312P.  
PR 26-MAY-2000; 2000US-020745P.  
PR 30-JUN-2000; 2000US-0060840B.  
PR 03-AUG-2000; 2000US-00632366.  
PR 21-SEP-2000; 2000US-023467P.  
PR 27-SEP-2000; 2000US-0236359P.  
PR 04-OCT-2000; 2000GB-00024263.  
XX  
PA (MOLE-) MOLECULAR DYNAMICS INC.  
XX  
PI Penn SG, Hanzel DK, Chen W, Rank DR;  
XX  
DR WPI; 2001-483447/52.  
XX  
PT Human genome-derived single exon nucleic acid probes useful for analyzing  
PT gene expression in human fetal liver.  
XX  
PS Claim 27; SEQ ID NO 36514; 639pp + Sequence Listing; English.  
XX  
CC The invention relates to a single exon nucleic acid probe for measuring  
CC human gene expression in a sample derived from human foetal liver. The  
CC single exon nucleic acid probes may be used for predicting, measuring and  
CC displaying gene expression in samples derived from human fetal liver. The

CC present sequence is a peptide encoded by a single exon nucleic acid probe  
 CC of the invention. Note: The sequence data for this patent did not form  
 CC part of the printed specification, but was obtained in electronic format.  
 CC directly from WIPO at [ftp://wipo.int/pub/published\\_pct\\_sequences](ftp://wipo.int/pub/published_pct_sequences)

SQ Sequence 51 AA;

RESULT 7

ID AAM37799 100.0%; Score 145; DB 4; Length 51;  
 XX Best Local Similarity 100.0%; Pred. No. 8.9e-12; Mismatches 0; Indels 0; Gaps 0;

AC AAM77605

QY 1 HEPKGYHANFCLGCPYIWSLDT 23

DB 25 HEPKGYHANFCLGCPYIWSLDT 47

PN Human peptide encoded by genome-derived single exon probe SEQ ID NO: 37911.

XX Human; bone marrow expressed probe encoded protein SEQ ID NO: 37911.

DE Human; bone marrow expressed probe encoded protein SEQ ID NO: 37911.

XX Human; bone marrow expressed exon; gene expression analysis; probe;  
 KW microarray; cancer; leukaemia; lymphoma; myeloma.

XX Homo sapiens.

OS Homo sapiens.

XX WO200151276-A2.

PN 09-AUG-2001.

XX 30-JAN-2001; 2001WO-US000668.

AC PR 04-FEB-2000; 2000US-0180312P.

XX PR 26-MAY-2000; 2000US-0207456P.

PR 30-JUN-2000; 2000US-00608408.

XX PR 03-AUG-2000; 2000US-00632365.

PR 21-SEP-2000; 2000US-0234687P.

PR 27-SEP-2000; 2000US-0236359P.

PR 04-OCT-2000; 2000GB-00024263.

XX PA (MOLE-) MOLECULAR DYNAMICS INC.

XX Penn SG, Hanzel DK, Chen W, Rank DR;

XX DR WPI; 2001-488900/53.

XX PT Human genome-derived single exon nucleic acid probes useful for analyzing  
 PT gene expression in human bone marrow.

XX Example 4; SEQ ID NO 37911; 658PP + Sequence Listing; English.

PS The present invention provides a number of single exon nucleic acid  
 XX probes which are derived from genomic sequences expressed in the human  
 CC bone marrow. They can be used to measure gene expression in bone marrow  
 CC samples, which may enable the improved diagnosis and treatment of cancers  
 CC such as lymphoma, leukaemia and myeloma. The present sequence is a  
 CC protein encoded by one of the probes of the invention

SQ Sequence 51 AA;

RESULT 8

Query Match 100.0%; Score 145; DB 4; Length 51;  
 XX Best Local Similarity 100.0%; Pred. No. 8.9e-12; Mismatches 0; Indels 0; Gaps 0;

AC AAM77605

QY 1 HEPKGYHANFCLGCPYIWSLDT 23

DB 25 HEPKGYHANFCLGCPYIWSLDT 47

PN Human peptide encoded by genome-derived single exon probe SEQ ID 36305.

XX Human peptide encoded by genome-derived single exon probe SEQ ID 36305.

DE Human peptide encoded by genome-derived single exon probe SEQ ID 36305.

XX Human; single exon probe; asthma; lung cancer; COPD; ILD; disease;  
 KW chronic obstructive pulmonary disease; interstitial lung disease;  
 KW familial idiopathic pulmonary fibrosis; neurofibromatosis;  
 KW tuberous sclerosis; Gaucher's disease; Niemann-Pick disease;



KW Neurturin; human; haematopoietic cell; neuronal cell; stem cell; NT gene;  
 KW neurodegenerative disease; peripheral neuropathy; nervous system tumour;  
 KW amyotrophic lateral sclerosis; Alzheimer's disease; Parkinson's disease;  
 KW Huntington's disease; ischaemic stroke; acute brain injury; basoapena;  
 KW acute spinal cord injury; multiple sclerosis; eosinopaenia; Lymphopaenia;  
 KW monocytopenia; neutropaenia; anaemia; thrombocytopaenia; neuroblastoma;  
 KW antibody; obesity; therapy; transforming growth factor beta; TGFbeta1;  
 KW growth factor; hybrid protein.  
 OS Homo sapiens.  
 XX PN WO9708196-A1.  
 XX PD 06-MAR-1997.  
 XX PP 27-AUG-1995; 96WO-US014065.  
 XX PR 28-AUG-1995; 95US-00519777.  
 XX PA (UNIW ) UNIV WASHINGTON.  
 XX PI Johnson EM, Milbrandt JD, Kotzbauer PT, Lampe PA;  
 XX DR WPI; 1997-179176/16.  
 XX PT A novel growth factor Neurturin - used to treat neuro-degenerative and  
 PT haematopoietic cell degeneration diseases, e.g. Alzheimer's disease and  
 PT eosinopenia.  
 XX PS Claim 93; Fig 17; 206pp; English.  
 XX AW30331-W30353 represent human growth factor fragments that are used in  
 CC a hybrid polypeptide of the invention. These sequences form a hybrid with  
 CC the human neurturin (NT) fragment shown in AW0378. NT promotes the  
 CC growth and differentiation of haematopoietic and neuronal cells, and  
 CC their stem cells. The NT gene and protein are used to prevent or treat  
 CC neurodegenerative diseases e.g. peripheral neuropathy, amyotrophic  
 CC lateral sclerosis, Alzheimer's disease, Huntington's  
 CC disease, ischaemic stroke, acute brain injury, acute spinal cord injury,  
 CC nervous system tumours, multiple sclerosis and infection; and  
 CC hematopoietic cell degenerative diseases, e.g. eosinopaenia, basoapena,  
 CC lymphopaenia, monocytopenia, neutropaenia, anaemia, thrombocytopaenia  
 CC and stem cell insufficiencies. The NT protein and gene are also useful to  
 CC treat neuroblastomas. Antibodies against NT and oligonucleotides (used as  
 CC either probes or primers, corresponding to an exon of pre-pro-NT gene or  
 CC flanking a target sequence) can be used for detecting NT in a sample or  
 CC detecting mutations in the NT gene. Antisense sequences of NT genes  
 CC are used to treat diseases promoted by NT expression e.g. obesity  
 XX SQ Sequence 62 AA;

Query Match	100.0%	Score	145	DB	2	Length	62
Best Local Similarity	100.0%	Pred.	No.	1.1e-11			
Mismatches	0						
Indels	0						
Gaps	0						

RESULT 12  
 AAR22135 ID AAR22135 Standard; peptide; 65 AA.  
 XX AC AAR22135;  
 XX DT 25-MAR-2003 (revised)  
 XX DT 10-JUL-1992 (first entry)  
 XX DE PDGI subunit b.  
 XX KW Platelet derived growth inhibitor alpha; TGF-beta; trypsin; pepsin;  
 KW cell proliferation; eczema; immunosuppressant.

XK OS Homo sapiens.  
 XK PN EP475719-A.  
 XK PD 18-MAR-1992.  
 XK PF 10-SEP-1991; 91EP-00308239.  
 XK PR 11-SEP-1990; 90JP-00238944.  
 XK PA (NAKAJ) NAKAMURA T.  
 XK PI Nakamura T, Nakamura T;  
 XK DR WPI; 1992-090304/12.  
 XK PT New platelet-derived growth regulating peptide-alpha - used for treatment  
 PT of eczema, stimulation of bone growth and as immunosuppressant.  
 XK FS Claim 2; Page 11; 21pp; English.  
 XK CC The peptide is subunit b of PGF1 alpha. It can be obtnd. by treating  
 CC transforming growth factor (TGF) beta with chymotrypsin or pepsin, or can  
 CC be isolated from human blood platelets or by recombinant expression of  
 CC DNA obtd. using RNA extd. from blood plasma. PGF1 alpha is comprised of  
 CC subunits a, b and c bonded b-a-c. PGF1 alpha can be used for controlling  
 CC cell proliferation without the cancerous activity (transformation  
 CC activity) associated with TGF-beta. PGF1 alpha can be used for  
 CC activation and acceleration of the proliferation of epithelium cells in  
 CC treating eczema, for stimulating osseous growth for bone formation or as  
 CC an immuno- suppressant for immune diseases. See also AAR22134-6. (Updated  
 XK on 25-MAR-2003 to correct PR field.)  
 XK SQ Sequence 65 AA;

Query Match	100.0%	Score	145	DB	2	Length	65
Best Local Similarity	100.0%	Pred.	No.	1.1e-11			
Mismatches	0						
Indels	0						
Gaps	0						

RESULT 13  
 AAY16697 ID AAY16697 standard; peptide; 98 AA.  
 XK AC AAY16697;  
 XK DT 17-AUG-1999 (first entry)  
 XK DE WO914235 seq ID No: 150.  
 XK Growth factor; GF; perinephrin; neuron growth; cellular degeneration;  
 KW peripheral neuropathy; amyotrophic lateral sclerosis; ischaemic stroke;  
 KW Alzheimer's disease; Parkinson's disease; Huntington's disease; trauma;  
 KW brain injury; spinal cord injury; nervous system tumour; infection;  
 KW multiple sclerosis; cardiac muscle degeneration; injury; neurotoxin;  
 KW metabolic disease; diabetes; renal dysfunction; neurturin;  
 KW Unidentified.  
 OS XX WO914235-A1.  
 OS FN 25-MAR-1999.  
 OS XX PP 15-SEP-1998; 98WO-US019163.  
 OS XX BR 16-SEP-1997; 97US-00931858.  
 OS PA (UNIW ) UNIV WASHINGTON.

PR 16-AUG-1999; 99US-00375333.  
 XX  
 PT Johnson EM, Milbrandt JD, Kotzbauer PT, Lampe PA, Klein R;  
 PT Desauvage F;  
 XX  
 DR WPI; 1999-244023/20.  
 XX  
 PT New isolated persephin growth factor nucleic acids used to, e.g. promote  
 PT neuronal growth.  
 XX  
 PS Disclosure; Page 175-176; 222pp; English.  
 XX  
 CC The invention relates to a novel isolated and purified growth factor (GF)  
 CC that comprises persephin or a fragment or a conservatively substituted  
 variant. The persephin GF polypeptides can promote the survival and  
 growth of neurons and non-neuronal cells. The persephin GF polypeptides  
 or polynucleotides can be used for preventing or treating cellular  
 degeneration or insufficiency, e.g., neuronal degeneration resulting from  
 peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's  
 disease, Parkinson's disease, Huntington's disease, ischemic stroke,  
 acute brain injury, acute spinal cord injury, nervous system tumours,  
 multiple sclerosis, or infection, hematopoietic cell degeneration or  
 insufficiency resulting from eosinopenia, anemias, thrombocytopenia, or  
 stem-cell insufficiencies, cardiac muscle degeneration or insufficiency  
 resulting from cardiomyopathy or congestive heart failure. The GF can also  
 be used for treating, e.g., peripheral nerve trauma or injury, exposure to  
 neurotoxins, metabolic diseases such as diabetes or renal dysfunctions  
 and damage caused by infectious agents. The GF can also be used for  
 promoting the growth and/or differentiation of a cell in a culture  
 medium. The antisense polynucleotides can be used for treating a disease  
 mediated by expression of persephin by a population of cells.  
 CC The products can also be used for detection and diagnosis  
 CC  
 XX Sequence 98 AA;

SQ

Query Match 100.0%; Score 145; DB 2; Length 98;  
 Best local Similarity 100.0%; Pred. No. 1.6e-11; Indels 0; Gaps 0;  
 Matches 23; Conservative 0; Mismatches 0;

QY 1 HEPKGYHANFCLGCPYIWLDT 23  
 DB 20 HEPKGYHANFCLGCPYIWLDT 42

RESULT 14

AAV92554  
 ID AAV92554 standard; peptide; 98 AA.  
 XX  
 AC AAV92554;  
 XX  
 DT 10-AUG-2000 (first entry)

DB TGB-beta 1 finger-1-heel-finger-2 sequence.  
 XX  
 KW finger domain; heel region; BMP; TGF-beta family; protein refolding;  
 KW fusion protein; osteopathic; antibacterial; cytostatic.  
 OS Homo sapiens.

XX  
 Key location/Qualifiers  
 PT Domain 2.; '29  
 PT /label= finger\_1  
 PT Region 35.; '62  
 PT /label= heel  
 PT Domain 65.; '94  
 PT /label= finger\_2

XX WO20020449-A2.  
 XX PD 13-APR-2000.  
 XX PP 07-OCT-1999; 99WO-US023372.  
 XX PR 07-OCT-1998; 98US-0103418P.  
 XX PR 07-OCT-1998; 98US-00374958.  
 XX PR (STYC ) STRYKER CORP.

PR 16-AUG-1999; 99US-00375333.  
 XX  
 PT (STYC ) STRYKER CORP.  
 XX  
 DR Oppermann H, Tai M, McCartney J;  
 XX  
 PT WPI; 2000-303743/26.  
 XX  
 A biologically active TGF-beta family member fusion protein competent to  
 PT refold, comprising a C-terminal linked TGF-beta family protein.  
 XX  
 PR Disclosure; Page 137-138; 160pp; English.

CC AAY2554-82 show the finger 1, heel and finger 2 domains of TGF-beta  
 CC family members. These sequences can be used to form novel fusion  
 proteins. Novel proteins comprise biologically active TGF-beta family  
 CC member fusion proteins competent to refold under suitable refolding  
 CC conditions. The fusion proteins comprise: (1) a TGF-beta family protein C  
 CC -terminal seven cysteine domain, comprising finger 1, finger 2 and heel  
 CC subdomains; and (2) a heterologous leader sequence domain operatively  
 CC linked to the C-terminal domain. Truncations, heterodimers and mutants of  
 CC these fusion proteins and methods of purifying the heterodimers are also  
 CC claimed. The TGF-beta family proteins can be used to induce the full  
 CC cascade of morphogenic events which culminate in skeletal tissue  
 CC formation, including cartilage and endochondral bone formation. They are  
 CC useful in the binding of fibrin and fibronectin to the implanted matrix,  
 CC chemotaxis of cells, proliferation of fibroblasts, differentiation into  
 CC chondroblasts, cartilage formation, vascular invasion, bone formation,  
 CC remodeling, and bone marrow differentiation. The proteins have improved  
 CC physical properties such as solubility and stability, improved biological  
 CC activity, including altered receptor binding and improved targeting  
 CC capabilities  
 XX Sequence 98 AA;

Query Match 100.0%; Score 145; DB 3; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 1.6e-11; Indels 0; Gaps 0;  
 Matches 23; Conservative 0; Mismatches 0;

QY 1 HEPKGYHANFCLGCPYIWLDT 23  
 DB 20 HEPKGYHANFCLGCPYIWLDT 42

RESULT 15

AAB09519  
 ID AAB09519 standard; protein; 98 AA.  
 XX  
 AC AAB09519;  
 XX  
 DT 11-SEP-2000 (first entry)

DB Human TGF-beta 1, SEQ ID NO:40.

XX  
 KW TGF-beta superfamily; transforming growth factor-beta;  
 KW developmental regulation; finger 2 subdomain; basic region;  
 KW protein refolding; stability; solubility; osteogenic protein; OP;  
 KW bone morphogenic protein; BMP; growth/differentiation factor; GDF;  
 KW inhibin; tissue morphogenesis; regeneration; bone; dental tissue;  
 KW connective tissue; cartilage; vulnery;  
 XX  
 OS Homo sapiens.

XX WO20020507-A2.  
 XX  
 PD 13-APR-2000.  
 XX  
 PR 07-OCT-1999; 99WO-US023371.  
 XX  
 PR 07-OCT-1998; 98US-0103418P.  
 PR 16-AUG-1999; 99US-00374958.  
 XX  
 PR (STYC ) STRYKER CORP.

XX  
 XX  
 PI Oppermann H, Tai M, McCartney J;  
 XX  
 DR WPI; 2000-303787/26.  
 DR N-FSDB; AAI38544.  
 XX  
 PT Transforming growth factor-beta superfamily member mutant induces tissue  
 PT morphogenesis in e.g. bone, non-mineralized skeletal tissue, dental  
 PT tissue and connective tissue and comprises a substitution in a region of  
 PT the finger 2 domain.  
 XX  
 PS Claim 14; Page 140; 162pp; English.

CC The invention relates to mutant TGF-beta (transforming growth factor-  
 CC beta) superfamily members. These mutants comprise one or more amino acid  
 CC substitutions in the base region of the finger 2 subdomain, and a C-  
 CC terminal residue selected from Arg, Ile, Leu, Ser and Ala. In the finger  
 CC 2 subdomain, basic residues (e.g., Arg, Lys), or residues containing an  
 CC amide group (e.g., Gln, Asn), are substituted with acidic residues (e.g.,  
 CC Glu, Asp) or residues containing a hydroxyl group (e.g., Ser, Thr). TGF-  
 CC beta superfamily proteins regulate developmental processes and include  
 CC proteins such as the osteogenic protein (OPs), bone morphogenetic  
 CC proteins (BMPs), growth/differentiation factors (GDFs) and inhibins.  
 CC Specific examples of TGF-beta superfamily mutants encompassed by the  
 CC invention are the finger 2 subdomain mutants of human osteogenic protein-  
 CC 1 (OP-1) (AB09576-B09615). Mutant TGF-beta proteins are used for  
 CC inducing tissue morphogenesis in bone, non-mineralised skeletal tissue,  
 CC dental tissue, connective tissue, brain, liver and nerve tissue. The  
 CC proteins can be used in conjunction with a biocompatible matrix e.g., bone,  
 CC collagen, hydroxyapatite or carboxymethylcellulose for regenerating bone,  
 CC cartilage and/or other mineralised skeletal or connective tissues e.g.,  
 CC ligament, tendon, muscle, fibrocartilage, joint capsule and  
 CC intervertebral discs. The OP-1 mutants can be used to repair diseased or  
 CC damaged mammalian tissue and to prevent or substantially inhibit  
 CC immune/inflammatory response-mediated tissue damage and scar tissue  
 CC formation following an injury. Compared to the wild-type TGF-beta  
 CC superfamily members, the mutant proteins have improved in vitro refolding  
 CC properties in a pH range of 6-9, increased solubility in aqueous solution  
 CC and improved stability and/or activity. Sequences AB09519-B09542 and  
 CC AB09533-B09558 represent a variety of wild-type TGF-beta superfamily  
 CC proteins referred to in the specification  
 XX  
 Sequence 98 AA;

SQ Query Match 100.0%; Score 145; DB 3; Length 98;

Best Local Similarity 100.0%; Pred. No. 1\_6e-11;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	HEPKGYHANFOLGPCPYIWSLDT	23
Db	20	HEPKGYHANFOLGPCPYIWSLDT	42

Search completed: June 14, 2005, 15:46:23  
 Job time : 131.808 secs

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## Om protein - protein search, using sw model

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50.412 Million cell updates/sec

Title: US-09-831-253F-10

Perfect score: 145

Sequence: 1 HEPKGHANFCIGPCPYIWSDLT 23

Scoring table: BLOSUM62

Gapop 10.0 , Gapext: 0.5

Searched: 513545 seqs, 7464964 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA,\*

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 2: /cgnd\_6/prodata/1/iaa/5B\_COMB\_pep: \*  
 3: /cgnd\_6/prodata/1/iaa/6A\_COMB\_pep: \*  
 4: /cgnd\_6/prodata/1/iaa/6B\_COMB\_pep: \*  
 5: /cgnd\_6/prodata/1/iaa/backfile81.pep: \*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match Length	DB ID	Description
1	145	100.0	51	6 5168051-4
2	145	100.0	51	6 5168051-4
3	145	100.0	60	3 US-09-363-939A-122
4	145	100.0	60	3 US-09-363-939A-122
5	145	100.0	70	4 US-09-791-301-122
6	145	100.0	98	3 US-08-478-07A-1
7	145	100.0	98	3 US-08-931-838E-150
8	145	100.0	98	3 US-08-981-739-150
9	145	100.0	98	4 US-09-128-026-150
10	145	100.0	98	4 US-09-496-38A-1
11	145	100.0	98	4 US-09-220-537-150
12	145	100.0	98	4 US-09-57A-1
13	145	100.0	98	4 US-09-220-537-150
14	145	100.0	98	4 US-09-220-537-150
15	145	100.0	98	4 US-09-220-537-150
16	145	100.0	112	1 US-08-197-732-36
17	145	100.0	112	1 US-08-486-057B-41
18	145	100.0	112	1 US-08-459-950-36
19	145	100.0	112	1 US-08-459-234-36
20	145	100.0	112	1 US-08-470-837-30
21	145	100.0	112	2 US-08-789-588-41
22	145	100.0	112	2 US-08-410-533-1
23	145	100.0	112	3 US-09-123-233-2
24	145	100.0	112	3 US-08-927-433-5
25	145	100.0	112	3 US-08-868-452-30
26	145	100.0	112	4 US-09-637D-1
27	100.0	112	5 PCT-US93-03068-1	

RESULT 1  
5168051-4  
; Patent No. 5168051  
; APPLICANT: DERICK, RIK M.A.; GOEDDEL, DAVID V.  
; TITLE OF INVENTION: NUCLEAR ACID ENCODING TGF-B ITS USES  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/389, 929  
; FILING DATE: 04-AUG-1989  
; SEQ ID NO: 4;  
; LENGTH: 51  
5168051-4  
Query Match 100.0%; Score 145; DB 6; Length 51;  
Best Local Similarity 100.0%; Pred. No. 2.3e-11;  
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy |||||||  
Db |||||||  
ALIGNMENTS

Sequence 23, Appl  
Sequence 21, Appl  
Sequence 23, Appl  
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Sequence 21, Appl  
Sequence 22, Appl  
Sequence 21, Appl  
Sequence 23, Appl  
Sequence 23, Appl  
Sequence 21, Appl  
Sequence 19, Appl  
Sequence 25, Appl  
Sequence 29, Appl  
Sequence 19, Appl  
Sequence 19, Appl  
Sequence 29, Appl  
Sequence 25, Appl  
Sequence 39, Appl

RESULT 2  
5168051-4  
; Patent No. 5168051  
; APPLICANT: DERICK, RIK M.A.; GOEDDEL, DAVID V.  
; TITLE OF INVENTION: NUCLEAR ACID ENCODING TGF-B ITS USES  
; NUMBER OF SEQUENCES: 21  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/07/389, 929  
; FILING DATE: 04-AUG-1989  
; SEQ ID NO: 4;  
; LENGTH: 51  
5168051-4  
Query Match 100.0%; Score 145; DB 6; Length 51;  
Best Local Similarity 100.0%; Pred. No. 2.3e-11;  
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Qy |||||||  
Db |||||||  
ALIGNMENTS

Sequence 23, Appl  
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Sequence 21, Appl  
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Sequence 29, Appl  
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Sequence 19, Appl  
Sequence 29, Appl  
Sequence 25, Appl  
Sequence 39, Appl

RESULT 3  
US-09-363-939A-122  
; Sequence 122, Application US/09363939A

; Parent No. 6346611;  
; GENERAL INFORMATION:  
; APPLICANT: Pagratis, Nikos

APPLICANT: Lochrie, Michael  
 APPLICANT: Gold, Larry  
 TITLE OF INVENTION: High Affinity TGF $\beta$  Nucleic Acid Ligands and  
 TITLE OF INVENTION: Inhibitors  
 FILE REFERENCE: NEX07  
 CURRENT APPLICATION NUMBER: US/09/363,939A  
 CURRENT FILING DATE: 1999-07-29  
 PRIOR APPLICATION NUMBER: 09/046,247  
 PRIOR FILING DATE: 1998-03-23  
 PRIOR APPLICATION NUMBER: 08/458,424  
 PRIOR FILING DATE: 1995-06-02  
 PRIOR APPLICATION NUMBER: 07/714,131  
 PRIOR FILING DATE: 1991-06-10  
 PRIOR APPLICATION NUMBER: 07/931,473  
 PRIOR FILING DATE: 1992-08-17  
 PRIOR APPLICATION NUMBER: 07/964,624  
 PRIOR FILING DATE: 1992-10-21  
 PRIOR APPLICATION NUMBER: 08/117,991  
 PRIOR FILING DATE: 1993-09-08  
 PRIOR APPLICATION NUMBER: 07/536,428  
 PRIOR FILING DATE: 1990-06-11  
 NUMBER OF SEQ ID NOS.: 215  
 SOFTWARE: PatentIn Ver. 2.0  
 SEQ ID NO: 122  
 LENGTH: 60  
 TYPE: PRT  
 ORGANISM: Artificial Sequence  
 FEATURE:  
 OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
 OTHER INFORMATION: Sequence  
 US-09-363-939A-122  
 Query Match 100.0%; Score 145; DB 3; Length 60;  
 Best Local Similarity 100.0%; Pred. No. 2.6e-11;  
 Matches 23; Conservative 0; Mismatches 0;  
 Indels 0; Gaps 0;  
 Software: PatentIn Ver. 2.0  
 RESULT 4  
 US-09-791-301-122  
 Sequence 122, Application US/09791301  
 Patent No. 6713616  
 GENERAL INFORMATION:  
 APPLICANT: Pagratis, Nikos  
 APPLICANT: Locheire, Michael  
 APPLICANT: Gold, Larry  
 TITLE OF INVENTION: High Affinity TGF $\beta$  Nucleic Acid Ligands and  
 TITLE OF INVENTION: Inhibitors  
 FILE REFERENCE: NEX 87/C  
 CURRENT APPLICATION NUMBER: US/09/791,301  
 CURRENT FILING DATE: 2001-02-23  
 PRIOR APPLICATION NUMBER: 09/046,247  
 PRIOR FILING DATE: 1998-03-23  
 PRIOR APPLICATION NUMBER: 08/458,424  
 PRIOR FILING DATE: 1995-06-02  
 PRIOR APPLICATION NUMBER: 07/714,131  
 PRIOR FILING DATE: 1991-06-10  
 PRIOR APPLICATION NUMBER: 07/931,473  
 PRIOR FILING DATE: 1992-08-17  
 PRIOR APPLICATION NUMBER: 07/964,624  
 PRIOR FILING DATE: 1992-10-21  
 PRIOR APPLICATION NUMBER: 08/117,991  
 PRIOR FILING DATE: 1993-09-08  
 PRIOR APPLICATION NUMBER: 07/536,428  
 PRIOR FILING DATE: 1990-06-11  
 PRIOR APPLICATION NUMBER: 09/363,939  
 PRIOR FILING DATE: 1999-07-29  
 NUMBER OF SEQ ID NOS.: 215  
 SOFTWARE: PatentIn Ver. 2.0  
 SEQ ID NO: 122  
 LENGTH: 60  
 TYPE: PRT  
 ORGANISM: Artificial Sequence  
 FEATURE:  
 OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
 OTHER INFORMATION: Sequence  
 US-09-791-301-122  
 Query Match 100.0%; Score 145; DB 4; Length 60;  
 Best Local Similarity 100.0%; Pred. No. 2.6e-11;  
 Matches 23; Conservative 0; Mismatches 0;  
 Indels 0; Gaps 0;  
 Software: PatentIn Ver. 2.0  
 RESULT 5  
 US-09-848-664A-9  
 Sequence 9, Application US/09848664A  
 Patent No. 6723344  
 GENERAL INFORMATION:  
 APPLICANT: Sakiyama-Bilbert, Shelly E.  
 APPLICANT: Hubbell, Jeffrey A.  
 TITLE OF INVENTION: Controlled Release of No. 6733344 Heparin Binding Growth  
 TITLE OF INVENTION: Factors from Heparin Containing Matrices  
 FILE REFERENCE: ETH 108  
 CURRENT APPLICATION NUMBER: US/09/848,664A  
 CURRENT FILING DATE: 2001-05-03  
 PRIOR APPLICATION NUMBER: US/09/298,084A  
 PRIOR FILING DATE: 1999-04-22  
 NUMBER OF SEQ ID NOS: 31  
 SEQ ID NO: 9  
 LENGTH: 70  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-09-848-664A-9  
 Query Match 100.0%; Score 145; DB 4; Length 70;  
 Best Local Similarity 100.0%; Pred. No. 3e-11;  
 Matches 23; Conservative 0; Mismatches 0;  
 Indels 0; Gaps 0;  
 Software: PatentIn Ver. 2.1  
 RESULT 6  
 US-08-478-097A-1  
 Sequence 1, Application US/08478097A  
 Patent No. 6040431  
 GENERAL INFORMATION:  
 APPLICANT: KECK, PETER  
 APPLICANT: SMART, JOHN  
 TITLE OF INVENTION: SINGLE-CHAIN ANALOGS OF TGF- $\beta$   
 TITLE OF INVENTION: SUPERFAMILY (MORPHONS)  
 NUMBER OF SEQUENCES: 45  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: PATENT ADMINISTRATOR, TESTA, HURWITZ &  
 ADDRESS: THIBAULT, LLP  
 STREET: 125 HIGH STREET  
 CITY: BOSTON  
 STATE: MA  
 COUNTRY: USA  
 ZIP: 02110  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.25  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/08/478,097A

FILING DATE: ; MOLECULE TYPE: peptide  
 CLASSIFICATION: 5330 ; US-09-931-858B-150  
 ATTORNEY/AGENT INFORMATION:  
 NAME: PITCHER ESG, EDMUND R  
 REGISTRATION NUMBER: 27,829  
 REFERENCE/DOCKET NUMBER: CRP-080  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 617-248-7100  
 INFORMATION FOR SEQ ID NO: 1:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 STRANDBNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein  
 FEATURE:  
 NAME/KEY: Protein  
 LOCATION: 1..98  
 OTHER INFORMATION: /note= "TGF-B1 SEQUENCE"  
 US-08-478-097A-1

RESULT 7 ; Query Match 100.0%; Score 145; DB 3; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11; Pred. No. 4.2e-11;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

Query Match 100.0%; Score 145; DB 3; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11; Pred. No. 4.2e-11;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

RESULT 8 ; Query Match 100.0%; Score 145; DB 3; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11; Pred. No. 4.2e-11;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

RESULT 9 ; Query Match 100.0%; Score 145; DB 3; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11; Pred. No. 4.2e-11;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

GENERAL INFORMATION:  
 APPLICANT: JOHNSON JR., EUGENE M.  
 MILBRANDT, JEFFREY D.  
 KOTZBAUER, PAUL T.  
 LAMPE, PATRICIA A.  
 APPLICANT: KLEIN, ROBERT  
 APPLICANT: DESSAUVE, FRED  
 TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR  
 NUMBER OF SEQUENCES: 239  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: HOWELL & HAERKAMP, L.C.  
 STREET: 7733 FORSYTH BOULEVARD, SUITE 1400  
 CITY: ST. LOUIS  
 STATE: MISSOURI  
 COUNTRY: US  
 ZIP: 63105-1817

COMPUTER READABLE FORM:  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patient Release #1.0, Version #1.30

CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/08/981,739  
 FILING DATE: 31-Aug-1998  
 PRIORITY DATA:  
 PRIORITY: <Unknown>  
 APPLICATION NUMBER: PCT/US97/03461  
 FILING DATE: <Unknown>

ATTORNEY/AGENT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35,197  
 REFERENCE/DOCKET NUMBER: 976163  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (314) 727-5188  
 TELEFAX: (314) 727-6092

INFORMATION FOR SEQ ID NO: 150:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 STRANDBNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: peptide  
 SEQUENCE DESCRIPTION: SEQ ID NO: 150:  
 US-08-981-739-150

Query Match 100.0%; Score 145; DB 3; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11; Pred. No. 4.2e-11;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

GENERAL INFORMATION:  
 INFORMATION FOR SEQ ID NO: 150:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 STRANDBNESS: single  
 TOPOLOGY: linear

APPLICANT: JOHNSON JR., EUGENE M.  
 APPLICANT: MILBRANDT, JEFFREY D.  
 APPLICANT: KOTZBAUER, PAUL T.  
 TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS  
 NUMBER OF SEQUENCES: 176

CORRESPONDENCE ADDRESS:  
 ADDRESSEE: HOWELL & HAVERKAMP, L.C.  
 STREET: 7733 FORSYTH BOULEVARD, SUITE 1400  
 CITY: ST. LOUIS  
 STATE: MISSOURI  
 COUNTRY: US

ZIP: 63105-1817  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: FLOPPY DISK  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/128, 026  
 FILING DATE:

CLASSIFICATION:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35, 197  
 REFERENCE/DOCKET NUMBER: 976163  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (314) 727-5188  
 TELEFAX: (314) 727-6092

INFORMATION FOR SEQ ID NO: 150:

SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 TYPE: amino acid

STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein  
 FEATURE: PROTEIN  
 LOCATION: 1..98  
 OTHER INFORMATION: /note= "TGF-B1 SEQUENCE"  
 US-09-496-398-1

Query Match 100.0%; Score 145; DB 4; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

RESULT 10  
 US-09-496-398-1  
 Sequence 1, Application US/09496398  
 Patent No. 6479633

GENERAL INFORMATION:  
 APPLICANT: JOHNSON JR., EUGENE M.  
 APPLICANT: MILBRANDT, JEFFREY D.  
 APPLICANT: KOTZBAUER, PAUL T.  
 APPLICANT: LAMPE, PATRICIA A.  
 TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS  
 NUMBER OF SEQUENCES: 176

CORRESPONDENCE ADDRESS:  
 ADDRESSEE: HOWELL & HAVERKAMP, L.C.  
 STREET: 7733 FORSYTH BOULEVARD, SUITE 1400  
 CITY: ST. LOUIS  
 STATE: MISSOURI  
 COUNTRY: US

ZIP: 63105-1817  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: FLOPPY DISK  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/220, 616

FILING DATE:

CLASSIFICATION:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35, 197  
 REFERENCE/DOCKET NUMBER: 976163  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (314) 727-5188  
 TELEFAX: (314) 727-6092

INFORMATION FOR SEQ ID NO: 150:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear  
 MOLECULE TYPE: peptide

US-09-220-616-150

Query Match 100.0%; Score 145; DB 4; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11; Indels 0; Gaps 0;  
 Matches 23; Conservative 0; Mismatches 0; Sequence Description: SEQ ID NO: 150;

QY 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

RESULT 12  
 US-09-374-958C-40  
 Sequence 40; Application US/09374958C  
 Patent No. 667732  
 GENERAL INFORMATION:  
 APPLICANT: STRYKER Corporation  
 TITLE OF INVENTION: Modified Proteins and DNAs of the TGF-beta Superfamily, Including  
 TITLE OF INVENTION: Modified Morphogenic Proteins  
 FILE REFERENCE: STK-076  
 CURRENT APPLICATION NUMBER: US/09/374,958C  
 CURRENT FILING DATE: 1999-08-16  
 NUMBER OF SEQ ID NOS: 90  
 SOFTWARE: PatentIn version 2.0  
 SEQ ID NO 40  
 LENGTH: 98  
 TYPE: PRT  
 FEATURE:  
 OTHER INFORMATION: TGF-Beta  
 ORGANISM: Homo sapiens

US-09-374-958C-40

Query Match 100.0%; Score 145; DB 4; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11; Indels 0; Gaps 0;  
 Matches 23; Conservative 0; Mismatches 0; Sequence Description: SEQ ID NO: 150;

QY 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

RESULT 13  
 US-09-220-527-150  
 Sequence 150; Application US/09220527  
 Patent No. 6692943  
 GENERAL INFORMATION:  
 APPLICANT: JOHNSON JR., EUGENE M.  
 MILBRANDT, JEFFREY D.  
 KOTZBAUER, PAUL T.  
 LAMPE, PATRICIA A.  
 KLIN, ROBERT  
 DESAULAGE, FRED  
 TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR  
 NUMBER OF SEQUENCES: 239  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: HOWELL & HAERKAMP, L.C.  
 STREET: 7733 FORSYTH BOULEVARD, SUITE 1400  
 CITY: ST. LOUIS  
 STATE: MO  
 COUNTRY: USA  
 ZIP: 63105  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/220,407  
 FILING DATE:  
 CLASSIFICATION:  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US/08/931,858  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/220,407  
 FILING DATE:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35,197  
 REFERENCE/DOCKET NUMBER: 971486  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (314) 727-5188  
 TELEX/FAX: (314) 727-6092  
 INFORMATION FOR SEQ ID NO: 150:

INFORMATION FOR SEQ ID NO: 150:  
 ATTY/AGNT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35,197  
 REFERENCE/DOCKET NUMBER: 971613  
 TELEPHONE: (314) 727-5188  
 TELEX/FAX: (314) 727-6092  
 INFORMATION FOR SEQ ID NO: 150:  
 SEQUENCE DESCRIPTION: SEQ ID NO: 150;  
 LENGTH: 98 amino acids  
 MOLECULE TYPE: peptide  
 TOPOLOGY: Linear  
 STRANDEDNESS: single  
 TYPE: amino acid  
 STRANDEDNESS: single  
 TOPOLGY: linear  
 FILING DATE: <Unknown>  
 CLASSIFICATION: <Unknown>  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US/08/981,739  
 FILING DATE: 31-Aug-1998  
 APPLICATION NUMBER: PCT/US97/03461

Query Match 100.0%; Score 145; DB 4; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.2e-11; Indels 0; Gaps 0;  
 Matches 23; Conservative 0; Mismatches 0; Sequence Description: SEQ ID NO: 150;

QY 1 HEPKGYHANFCLGCPYIWSLDT 23  
 Db 20 HEPKGYHANFCLGCPYIWSLDT 42

RESULT 14  
 US-09-220-407-150  
 Sequence 150; Application US/09220407  
 Patent No. 6716600  
 GENERAL INFORMATION:  
 APPLICANT: JOHNSON, EUGENE M.  
 APPLICANT: MILLRANDT, JEFFREY D.  
 APPLICANT: KOTZBAUER, PAUL T.  
 APPLICANT: LAMPE, PATRICIA A.  
 APPLICANT: KLIN, ROBERT  
 APPLICANT: DESAULAGE, FRED  
 TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR  
 NUMBER OF SEQUENCES: 239  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: HOWELL & HAERKAMP, L.C.  
 STREET: 7733 FORSYTH BOULEVARD, SUITE 1400  
 CITY: ST. LOUIS  
 STATE: MO  
 COUNTRY: USA  
 ZIP: 63105  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.30  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/220,407  
 FILING DATE:  
 CLASSIFICATION:  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US/08/931,858  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/220,407  
 FILING DATE:  
 ATTORNEY/AGENT INFORMATION:  
 NAME: HOLLAND, DONALD R.  
 REGISTRATION NUMBER: 35,197  
 REFERENCE/DOCKET NUMBER: 971486  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (314) 727-6092  
 TELEX/FAX: (314) 727-6022  
 INFORMATION FOR SEQ ID NO: 150:

Job time : 34.0577 sec

SEQUENCE CHARACTERISTICS:  
 LENGTH: 98 amino acids  
 TYPE: amino acid  
 STRANDEDNESS: single  
 TOPOLOGY: linear

US-09-220-407-150  
 MOLECULE TYPE: peptide

Query Match 100.0%; Score 145; DB 4; Length 98;  
 Best Local Similarity 100.0%; Pred. No. 4.7e-11; Mismatches 0;  
 Matches 23; Conservative 0; Indels 0; Gaps 0;

Qy	1 HEPKGYHANFCGCPYIWSLT	23
Db	20 HEPKGYHANFCLGPCTPYIWSLT	42

RESULT 15

US-07-979-441-1  
 Sequence 1, Application US/07979441  
 Patent No. 5463925

GENERAL INFORMATION:  
 APPLICANT: OGAWA, YASUSHI  
 ADDRESS: Morrison & Foerster

APPLICANT: DASCH, JAMES  
 TITLE OF INVENTION: NOVEL BETA-TYPE TRANSFORMING GROWTH  
 NUMBER OF SEQUENCES: 4

CORRESPONDENCE ADDRESS:  
 STREET: 755 Page Mill Road  
 CITY: Palo Alto  
 STATE: California  
 COUNTRY: USA

ZIP: 94304-1018  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: FLOPPY disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/07/979,441  
 FILING DATE: 1992/11/20  
 CLASSIFICATION: 514

PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US/07/614,306  
 FILING DATE: 15-NOV-1990

ATTORNEY/AGENT INFORMATION:  
 NAME: CIOTTI, THOMAS E.  
 REGISTRATION NUMBER: 21,013  
 REFERENCE/DOCKET NUMBER: 220952024800

TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 415-913-5600  
 TELEX: 703141  
 INFORMATION FOR SEQ ID NO: 1:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 112 amino acids  
 TYPE: AMINO ACID  
 TOPOLOGY: linear

MOLECULE TYPE: protein  
 US-07-979-441-1

Query Match 100.0%; Score 145; DB 1; length 112;  
 Best Local Similarity 100.0%; Pred. No. 4.7e-11; Mismatches 0;  
 Matches 23; Conservative 0; Indels 0; Gaps 0;

Qy	1 HEPKGYHANFCGCPYIWSLT	23
Db	34 HEPKGYHANFCLGPCTPYIWSLT	56

Search completed: June 14, 2005, 16:10:14

Copyright (c) 1993 - 2005 Compugen Ltd.  
 OM protein - protein search, using sw model  
 Run on: June 14, 2005, 15:51:20 ; Search time 120.308 Seconds  
 (without alignments)  
 73.285 Million cell updates/sec

12	145	100.0	114	9	US-09-813-459-22	Sequence 22, Appl
13	145	100.0	114	13	US-10-115-496-21	Sequence 21, Appl
14	145	100.0	114	14	US-10-154-533-23	Sequence 20, Appl
15	145	100.0	114	16	US-10-704-223-21	Sequence 21, Appl
16	145	100.0	115	9	US-09-859-211-47	Sequence 47, Appl
17	145	100.0	115	9	US-09-880-700-25	Sequence 25, Appl
18	145	100.0	115	10	US-09-882-856-47	Sequence 47, Appl
19	145	100.0	115	14	US-10-335-483-29	Sequence 29, Appl
20	145	100.0	115	15	US-10-463-973-47	Sequence 47, Appl
21	145	100.0	115	15	US-10-693-516-19	Sequence 19, Appl
22	145	100.0	115	16	US-10-758-212-19	Sequence 19, Appl
23	145	100.0	139	13	US-10-002-218-8	Sequence 8, Appl
24	145	100.0	185	16	US-10-781-866-52	Sequence 52, Appl
25	145	100.0	218	16	US-10-781-866-51	Sequence 51, Appl
26	145	100.0	315	10	US-09-114-592-25	Sequence 25, Appl
27	145	100.0	390	9	US-09-576-283-23	Sequence 23, Appl
28	145	100.0	390	10	US-09-214-592-20	Sequence 20, Appl
29	145	100.0	390	10	US-09-214-592-23	Sequence 23, Appl
30	145	100.0	390	10	US-09-214-592-26	Sequence 26, Appl
31	145	100.0	390	10	US-09-214-592-28	Sequence 28, Appl
32	145	100.0	390	10	US-09-214-592-29	Sequence 29, Appl
33	145	100.0	390	10	US-09-214-592-33	Sequence 33, Appl
34	145	100.0	390	14	US-10-087-268-2	Sequence 2, Appl
35	145	100.0	390	14	US-10-087-268-5	Sequence 5, Appl
36	145	100.0	390	14	US-10-276-947-1	Sequence 1, Appl
37	145	100.0	390	14	US-10-131-995-13	Sequence 13, Appl
38	145	100.0	390	15	US-10-366-445-46	Sequence 46, Appl
39	145	100.0	390	16	US-10-746-445-38	Sequence 38, Appl
40	145	100.0	390	16	US-10-688-845-12	Sequence 12, Appl
41	145	100.0	390	17	US-10-741-600-1307	Sequence 1307, Ap
42	145	100.0	390	17	US-10-741-600-1308	Sequence 1308, Ap
43	145	100.0	390	17	US-10-901-417-13	Sequence 13, Appl
44	145	100.0	391	10	US-09-214-92-17	Sequence 17, Appl
45	145	100.0	391	17	US-10-741-600-1309	Sequence 1309, Ap

PRIOR APPLICATION NUMBER: PCT/US01/00668  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: PCT/US01/00663  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: PCT/US01/00662  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: PCT/US01/00661  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: PCT/US01/00670  
; PRIOR FILING DATE: 2001-01-30  
; PRIOR APPLICATION NUMBER: US 60/234,687  
; PRIOR FILING DATE: 2000-09-21  
; PRIOR APPLICATION NUMBER: US 09/608,408  
; PRIOR FILING DATE: 2000-06-30  
; PRIOR APPLICATION NUMBER: US 09/774,203  
; PRIOR FILING DATE: 2001-01-29  
; NUMBER OF SEQ ID NOS: 49117  
; SOFTWARE: Annonax Sequence Listing Engine vers. 1.1  
; SEQ ID NO: 47871  
; LENGTH: 51  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Sequence  
; OTHER INFORMATION: Map to AC011462\_3  
; OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 2.9  
; OTHER INFORMATION: EXPRESSED IN EPIAL LIVER, SIGNAL = 1.6  
; OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 6.5  
; OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 7.8  
; OTHER INFORMATION: EST HUMAN HIT: BE737006\_1, EVALUE 4.00e-28  
; OTHER INFORMATION: SWISSPROT HIT: O19011, EVALUE 3.00e-29  
; US-09-864-761-47871

RESULT 3  
US-10-812-642-122  
; Sequence 122, Application US/10812642  
; Publication No. US20040258656A1  
; GENERAL INFORMATION:  
; APPLICANT: Lagratis, Nikos  
; APPLICANT: Locurie, Michael  
; APPLICANT: Gold, Larry  
; TITLE OF INVENTION: High Affinity TGFBeta Nucleic Acid Ligands and  
; TITLE OF INVENTION: Inhibitors  
; FILE REFERENCE: NX87  
; CURRENT APPLICATION NUMBER: US10/812,642  
; CURRENT FILING DATE: 2004-03-30  
; PRIOR APPLICATION NUMBER: US10/363,939A  
; PRIOR FILING DATE: 1999-07-29  
; PRIOR APPLICATION NUMBER: 09/046,247  
; PRIOR FILING DATE: 1998-03-23  
; PRIOR APPLICATION NUMBER: 08/458,424  
; PRIOR FILING DATE: 1995-06-02  
; PRIOR APPLICATION NUMBER: 07/714,131  
; PRIOR FILING DATE: 1991-06-10  
; PRIOR APPLICATION NUMBER: 07/931,473  
; PRIOR FILING DATE: 1992-08-17  
; PRIOR APPLICATION NUMBER: 07/964,624  
; PRIOR FILING DATE: 1992-10-21  
; PRIOR APPLICATION NUMBER: 08/117,991  
; PRIOR FILING DATE: 1993-09-08  
; PRIOR APPLICATION NUMBER: 07/536,428  
; PRIOR FILING DATE: 1990-06-11  
; NUMBER OF SEQ ID NOS: 216  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO: 122  
; LENGTH: 60  
; TYPE: PRT  
; ORGANISM: Artificial Sequence  
; FEATURE:  
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic  
; OTHER INFORMATION: Sequence  
; US-10-812-642-122

RESULT 4  
US-09-841-664-9  
; Sequence 9, Application US/09848664  
; Patent No. US2003014414A1  
; GENERAL INFORMATION:  
; APPLICANT: Sakiyama-Elbert, Shelly E.  
; APPLICANT: Hubbell, Jeffrey A.  
; SOFTWARE: PatentIn Ver. 2.0  
; SEQ ID NO: 122

; TITLE OF INVENTION: Controlled Release of No. US200214414Al-Heparin Binding Growth Factor from Heparin Containing Matrices

; FILE REFERENCE: ETH 10B

; CURRENT APPLICATION NUMBER: US/09/848,664

; CURRENT FILING DATE: 2001-05-03

; PRIOR APPLICATION NUMBER: 09/288,084

; PRIOR FILING DATE: 1999-04-22

; NUMBER OF SEQ ID NOS: 31

; SOFTWARE: Patentin Ver. 2.1

; SEQ ID NO: 9

; LENGTH: 70

; TYPE: PRT

; ORGANISM: Homo sapiens

; US-09-848-664-9

Query Match 100.0%; Score 145; DB 9; Length 70;  
Best Local Similarity 100.0%; Pred. No. 3.5e-11; Indels 0; Gaps 0;  
Matches 23; Conservative 0; Mismatches 0;

Qy 1 HEPKGHANFCIGPCPYIWSLDT 23  
Db 34 HEPKGHANFCIGPCPYIWSLDT 56

RESULT 5

US-10-187-394-1

; Sequence 1, Application US/10187394

; Publication No. US20030176667A1

; GENERAL INFORMATION:

; APPLICANT: KECK, PETER

; APPLICANT: SMART, JOHN

; TITLE OF INVENTION: SINGLE CHAIN ANALOGS OF TGF-B

; TITLE OF INVENTION: SUPERFAMILY (MORPHONS)

; NUMBER OF SEQUENCES: 45

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: PATENT ADMINISTRATOR; TESTA, HURWITZ & THIBERIUT, LLP

; STREET: 125 HIGH STREET

; CITY: BOSTON

; STATE: MA

; COUNTRY: USA

; ZIP: 02110

; COMPUTER READABLE FORM:

; MEDIUM TYPE: FLOPPY disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/187,394

FILING DATE: 28-JUNE-2002

CLASSIFICATION: -

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/09/496,398

FILING DATE: 02-FEB-2000

CLASSIFICATION:

APPLICATION NUMBER: US 08/478,097

FILING DATE: 07-JUN-1995

CLASSIFICATION:

ATTORNEY/AGENT INFORMATION:

NAME: PITCHER ESO, EDMUND R

REGISTRATION NUMBER: 27,829

REFERENCE/DOCKET NUMBER: STK-059CN

TELECOMMUNICATION INFORMATION:

TELEPHONE: 617-248-7000

TELEFAX: 617-248-7100

SEQUENCE CHARACTERISTICS:

SEQUENCE FOR SEQ ID NO: 1:

LENGTH: 98 amino acids

TYPE: amino acid

STRANDNESS: single

TOPOLOGY: linear

MOLCULE TYPE: protein

FEATURE: protein

; NAME/KEY: Protein

; LOCATION: 1..98

; OTHER INFORMATION: /note= "TGF-B1 SEQQUENCE"

; US-10-187-394-1

Query Match 100.0%; Score 145; DB 14; Length 98;  
Best Local Similarity 100.0%; Pred. No. 4.7e-11; Indels 0; Gaps 0;  
Matches 23; Conservative 0; Mismatches 0;

Qy 1 HEPKGHANFCIGPCPYIWSLDT 23  
Db 20 HEPKGHANFCIGPCPYIWSLDT 42

RESULT 6

US-09-813-271B-2

; Sequence 2, Application US/09813271B

; Patent No. US20020115334A1

; GENERAL INFORMATION:

; APPLICANT: (A) Nico Cerletti

; TITLE OF INVENTION: New process for the production of biologically active protein

; NUMBER OF SEQUENCES: 13

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: No. US20020115834A1artis Patent Department

; STREET: 564 Morris Avenue

; CITY: Summit

; STATE: New Jersey

; COUNTRY: USA

; ZIP: 07901

; COMPUTER READABLE FORM:

; MEDIUM TYPE: FLOPPY disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/813,271B

FILING DATE: 20-Mar-2001

PRIOR APPLICATION DATA:

APPLICATION NUMBER: PCT/EP95/02719

FILING DATE: 12-JUL-95

APPLICATION NUMBER: EPO 94810439.3

FILING DATE: 25-JUL-94

ATTORNEY/AGENT INFORMATION:

NAME: Feijer, Nesna J.

REGISTRATION NUMBER: 2240

REGISTRATION/DOCKET NUMBER: 4-20039C/C1C1/USN

TELECOMMUNICATION INFORMATION:

TELEPHONE: (908) 522-6940

TELEFAX: (908) 522-6955

INFORMATION FOR SEQ ID NO: 2:

SEQUENCE DESCRIPTION:

SEQUENCE CHARACTERISTICS:

LENGTH: 112 amino acids

TYPE: amino acid

TOPOLOGY: Linear

MOLCULE TYPE: protein

SEQUENCE DESCRIPTION: SEQ ID NO: 2:

; US-09-813-271B-2

Query Match 100.0%; Score 145; DB 9; Length 112;  
Best Local Similarity 100.0%; Pred. No. 5.3e-11; Indels 0; Gaps 0;  
Matches 23; Conservative 0; Mismatches 0;

Qy 1 HEPKGHANFCIGPCPYIWSLDT 23  
Db 34 HEPKGHANFCIGPCPYIWSLDT 56

RESULT 7

US-10-366-345-54

; Sequence 54, Application US/10366345

; Publication No. US20030224501A1

; GENERAL INFORMATION:  
; APPLICANT: Young, et al.  
; TITLE OF INVENTION: Bone Morphogenetic Protein Polynucleotides, Polypeptides and  
; FILE REFERENCE: PTI89  
; CURRENT APPLICATION NUMBER: US/10/366,345  
; CURRENT FILING DATE: 2003-02-14  
; NUMBER OF SEQ ID NOS: 77  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 54  
; LENGTH: 112  
; TYPE: PRT  
; ORGANISM: Homo sapiens  
; US-10-366-345-54

Query Match 100.0%; Score 145; DB 15; Length 112;  
Best Local Similarity 100.0%; Pred. No. 5.3e-11; Mismatches 0; Indels 0; Gaps 0;  
Matches 23; Conservative 0; MisMatches 0; Del 0; Insert 0; Gap 0;

Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
Db 34 HEPKGYHANFCLGCPYIWSLDT 56

RESULT 8  
US-10-872-198-104  
Sequence 104, Application US/10872198  
Publication No. US200501002897A1  
GENERAL INFORMATION:  
APPLICANT: Ulrich HAUFFTS  
APPLICANT: Andre KOETTERMANN  
APPLICANT: Andreas SCHETDIG  
APPLICANT: Christian VOETSWEIER  
APPLICANT: Ulrich Kettling  
TITLE OF INVENTION: NEW BIOLOGICAL ENTITIES AND USE THEREOF  
FILE REFERENCE: 04156..003U4  
CURRENT APPLICATION NUMBER: US10/872,198  
CURRENT FILING DATE: 2004-06-18  
PRIOR APPLICATION NUMBER: 6/543,518  
PRIOR FILING DATE: 2004-02-11  
PRIOR APPLICATION NUMBER: 60/24,960  
PRIOR FILING DATE: 2003-11-25  
PRIOR APPLICATION NUMBER: EP 04003058  
PRIOR FILING DATE: 2004-02-11  
PRIOR APPLICATION NUMBER: EP 03025871  
PRIOR FILING DATE: 2003-11-11  
PRIOR APPLICATION NUMBER: EP 03025851  
PRIOR FILING DATE: 2003-11-10  
PRIOR APPLICATION NUMBER: EP 03013819  
PRIOR FILING DATE: 2003-06-18  
NUMBER OF SEQ ID NOS: 149  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 104  
LENGTH: 112  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-872-198-104

Query Match 100.0%; Score 145; DB 17; Length 112;  
Best Local Similarity 100.0%; Pred. No. 5.3e-11; Mismatches 0; Indels 0; Gaps 0;  
Matches 23; Conservative 0; MisMatches 0; Del 0; Insert 0; Gap 0;

Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
Db 34 HEPKGYHANFCLGCPYIWSLDT 56

RESULT 9  
US-09-813-398-13  
Sequence 13, Application US/09813398  
Patent No. US2002016292A1  
GENERAL INFORMATION:  
APPLICANT: Bruce D. Weintraub

RESULT 8  
US-10-872-198-104  
Sequence 104, Application US/10872198  
Publication No. US200501002897A1  
GENERAL INFORMATION:  
APPLICANT: Andre KOETTERMANN  
APPLICANT: Andreas SCHETDIG  
APPLICANT: Christian VOETSWEIER  
APPLICANT: Ulrich Kettling  
TITLE OF INVENTION: NEW BIOLOGICAL ENTITIES AND USE THEREOF  
FILE REFERENCE: 04156..003U4  
CURRENT APPLICATION NUMBER: US10/872,198  
CURRENT FILING DATE: 2004-06-18  
PRIOR APPLICATION NUMBER: 6/543,518  
PRIOR FILING DATE: 2004-02-11  
PRIOR APPLICATION NUMBER: 60/24,960  
PRIOR FILING DATE: 2003-11-25  
PRIOR APPLICATION NUMBER: EP 04003058  
PRIOR FILING DATE: 2004-02-11  
PRIOR APPLICATION NUMBER: EP 03025871  
PRIOR FILING DATE: 2003-11-11  
PRIOR APPLICATION NUMBER: EP 03025851  
PRIOR FILING DATE: 2003-11-10  
PRIOR APPLICATION NUMBER: EP 03013819  
PRIOR FILING DATE: 2003-06-18  
NUMBER OF SEQ ID NOS: 149  
SOFTWARE: PatentIn version 3.1  
SEQ ID NO 104  
LENGTH: 112  
TYPE: PRT  
ORGANISM: Homo sapiens  
US-10-872-198-104

Query Match 100.0%; Score 145; DB 17; Length 112;  
Best Local Similarity 100.0%; Pred. No. 5.3e-11; Mismatches 0; Indels 0; Gaps 0;  
Matches 23; Conservative 0; MisMatches 0; Del 0; Insert 0; Gap 0;

Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
Db 34 HEPKGYHANFCLGCPYIWSLDT 56

RESULT 10  
US-10-826-324-13  
Sequence 13, Application US/10826324  
Publication No. US20040265972A1  
GENERAL INFORMATION:  
APPLICANT: Bruce D. Weintraub  
APPLICANT: Mariusz W. Szkudlinski  
TITLE OF INVENTION: CYSTEINE KNOT GROWTH FACTOR MUTANTS  
FILE REFERENCE: U0FM0..003C1  
CURRENT APPLICATION NUMBER: US/10/826,324  
CURRENT FILING DATE: 2004-04-19  
PRIOR APPLICATION NUMBER: US/09/813,398  
PRIOR FILING DATE: 2001-03-20  
PRIOR APPLICATION NUMBER: PCT/US99/05908  
PRIOR FILING DATE: 1999-03-19  
PRIOR APPLICATION NUMBER: PCT/US98/19772  
PRIOR FILING DATE: 1998-09-22  
NUMBER OF SEQ ID NOS: 41  
SOFTWARE: fastSEQ for Windows Version 4.0  
SEQ ID NO 13  
LENGTH: 113  
TYPE: PRT  
ORGANISM: HOMO SAPIEN  
US-10-826-324-13

Query Match 100.0%; Score 145; DB 16; Length 113;  
Best Local Similarity 100.0%; Pred. No. 5.3e-11; Mismatches 0; Indels 0; Gaps 0;  
Matches 23; Conservative 0; MisMatches 0; Del 0; Insert 0; Gap 0;

Qy 1 HEPKGYHANFCLGCPYIWSLDT 23  
Db 35 HEPKGYHANFCLGCPYIWSLDT 57

RESULT 11  
US-09-389-705-23  
Sequence 23, Application US/09389705  
Publication No. US20010018509A1  
GENERAL INFORMATION:  
APPLICANT: JOHNS HOPKINS UNIVERSITY  
TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-3  
NUMBER OF SEQUENCES: 29  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: SPENSLEY HORN JUBAS & LUBITZ  
STREET: 1880 CENTURY PARK EAST, FIFTH FLOOR

APPLICATION NUMBER: 08/624,635  
 FILING DATE: <Unknown>  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Wetherell, Jr., Ph.D., John R.  
 REGISTRATION NUMBER: 31,678  
 REFERENCE/DOCKET NUMBER: PD-3054

TELECOMMUNICATION INFORMATION:  
 TELEPHONE: (619) 455-5110  
 TELEFAX: (619) 455-5110

INFORMATION FOR SEQ ID NO: 22:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 114 amino acids  
 STRANDEDNESS: Single  
 TOPOLOGY: Linear

MOLECULE TYPE: protein  
 IMMEDIATE SOURCE:  
 CLONE: TGF-beta-1

SEQUENCE DESCRIPTION: SEQ ID NO: 22:  
 US-09-813-459-22

Query Match 100.0%; Score 145; DB 9; Length 114;  
 Best Local Similarity 100.0%; Pred. No. 5.4e-11; Mismatches 0; Indels 0; Gaps 0;  
 Matches 23; Conservative 0; MisMatches 0; Indels 0; Gaps 0;

QY	1 HEPKGYHANFCLGCPYIWSLDT 23
Db	36 HEPKGYHANFCLGCPYIWSLDT 58

RESULT 12

Sequence 22, Application US/09813459  
 Patent No. US20020107369A1

GENERAL INFORMATION:

APPLICANT: Lee, Se-Jin

CUNNINGHAM, NO. US20020107369A1  
 TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-10  
 NUMBER OF SEQUENCES: 26

CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Spensley Horn Juras & Lubitz  
 STREET: 1880 Century Park East, Suite 500  
 CITY: Los Angeles  
 STATE: California  
 COUNTRY: USA  
 ZIP: 90067

COMPUTER READABLE FORM:  
 MEDIUM TYPE: Floppy disk  
 COMPUTER: IBM PC compatible  
 OPERATING SYSTEM: PC-DOS/MS-DOS  
 SOFTWARE: PatentIn Release #1.0, Version #1.25

CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/09/813,459  
 FILING DATE: 20-Mar-2001  
 CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

PRIOR APPLICATION DATA:  
 PRIOR FILING DATE: 1994-01-12  
 PRIOR APPLICATION NUMBER: US 08/003,303  
 PRIOR FILING DATE: 1993-01-12  
 PRIOR APPLICATION NUMBER: US 08/491,835  
 PRIOR FILING DATE: 1995-10-23  
 PRIOR APPLICATION NUMBER: PCT/US94/00685  
 PRIOR FILING DATE: 1994-01-12  
 PRIOR APPLICATION NUMBER: US 08/003,303  
 NUMBER OF SEQ ID NOS: 28  
 SOFTWARE: PatentIn version 3.0  
 SEQ ID NO: 21  
 LENGTH: 114  
 TYPE: PRT  
 ORGANISM: Homo sapiens

US-10-115-406-21

Query Match 100.0%; Score 145; DB 13; Length 114;  
 Best Local Similarity 100.0%; Pred. No. 5.4e-11; Mismatches 0; Indels 0; Gaps 0;  
 Matches 23; Conservative 0; MisMatches 0; Indels 0; Gaps 0;

QY	1 HEPKGYHANFCLGCPYIWSLDT 23
Db	36 HEPKGYHANFCLGCPYIWSLDT 58

RESULT 14

US-10-154-333-23

; Sequence 23, Application US/10154333  
; Publication No. US20030109684A1  
; GENERAL INFORMATION:  
; APPLICANT: JOHNS HOPKINS UNIVERSITY  
; TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-3  
; NUMBER OF SEQUENCES: 29  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: SPENSLEY HORN JUBAS & LUBITZ  
; STREET: 1880 CENTURY PARK EAST, FIFTH FLOOR  
; CITY: LOS ANGELES  
; STATE: CALIFORNIA  
; COUNTRY: US  
; ZIP: 90067  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.25  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/10/154,333  
; FILING DATE: 21-MAY-2002  
; CLASSIFICATION: <Unknown>  
; PRIORITY APPLICATION DATA:  
; APPLICATION NUMBER: US/09/389,705  
; FILING DATE: 03-SEP-1999  
; APPLICATION NUMBER: 09/153,733  
; ATTORNEY/AGENT INFORMATION:  
; NAME: WETHERELL, JR., Ph.D., JOHN R.  
; REGISTRATION NUMBER: 31,678  
; REFERENCE/DOCKET NUMBER: FD2279 PCT  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (619) 455-5100  
; TELEFAX: (619) 455-5110  
; INFORMATION FOR SEQ ID NO: 23:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 114 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: Single  
; TOPOLOGY: linear  
; MOLECULE TYPE: protein  
; IMMEDIATE SOURCE:  
; CLONE: TGF-beta 1  
; FEATURE:  
; NAME/KEY: Protein  
; LOCATION: 1..114  
; SEQUENCE DESCRIPTION: SEQ ID NO: 23:  
; US-10-154-333-23

Query Match 100.0%; Score 145; DB 14; length 114;  
Best Local Similarity 100.0%; Pred. No. 5. 4e-11; length 114;  
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HEPKGYHANFCLGCPYIWSLDT 23  
Db 36 HEPKGYHANFCLGCPYIWSLDT 58

Search completed: June 14, 2005, 16:14:52  
Job time : 120.308 secB

RESULT 15  
US-10-704-223-21  
; Sequence 21, Application US/10704223  
; Publication No. US20040152143A1  
; GENERAL INFORMATION:  
; APPLICANT: THE JOHNS HOPKINS UNIVERSITY  
; TITLE OF INVENTION: GROWTH DIFFERENTIATION FACTOR-9  
; FILE REFERENCE: JHU1190-7  
; CURRENT APPLICATION NUMBER: US/10/704,223  
; CURRENT FILING DATE: 2003-11-07  
; PRIOR APPLICATION NUMBER: US 10/115,406  
; PRIOR FILING DATE: 2002-04-02  
; PRIOR APPLICATION NUMBER: US 09/301,520  
; PRIOR FILING DATE: 1999-04-28

Query Match 100.0%; Score 145; DB 14; Length 114;  
Best Local Similarity 100.0%; Pred. No. 5. 4e-11; Length 114;  
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HEPKGYHANFCLGCPYIWSLDT 23  
Db 36 HEPKGYHANFCLGCPYIWSLDT 58

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## OM protein - protein search, using sw model

Run on:

June 14, 2005, 15:35:40 ; Search time 25.6538 Seconds

(without alignments)

86.263 Million cell updates/sec

Title: Perfect score: US-09-831-253F-10

Sequence: 1 HEPKGHANFCIGPCPYIWSLDT 23

Scoring table: Blosum62

Gapop 10.0 , Gapext 0.5

Searched:

283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100%

Listing first 45 summaries

Database : PIR 791\*

1: pir1,\*  
 2: pir2,\*  
 3: pir3,\*  
 4: pir4,\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

inhibin beta-A cha  
 inhibin beta-A cha  
 inhibin beta-A cha  
 inhibin beta-C cha  
 transforming growth  
 growth/differentiation  
 bone morphogenetic  
 bone morphogenetic  
 activin beta C pre  
 activin beta C-m  
 bone morphogenetic  
 bone morphogenetic  
 bone morphogenetic  
 bone morphogenetic  
 activin beta D cha

## ALIGNMENTS

## RESULT 1

I 148196  
 transforming growth factor beta-1 precursor - golden hamster (fragment)  
 C;Species: Mesocricetus auratus (golden hamster)  
 C;Date: 02-Jul-1996 #sequence\_revision 04-Oct-1996 #text\_change 09-Jul-2004  
 C;Accession: I 148196  
 R;Wong, D. T.; Donoff, R.B.; Yang, J.; Song, B.Z.; Matossian, K.; Negura, N.; Elovic, A.;  
 Am. J. Pathol. 143, 130-142, 1993  
 A;Title: Sequential expression of transforming growth factors alpha and beta 1 by eosino-

A;Reference number: I 148196; MUID:93304479; PMID:8312544  
 A;Accession: I 148196  
 A;Status: preliminary; translated from GB/EMBL/DDBJ

A;Molecule type: mRNA

A;Residues: 1-130 &lt;RES&gt;

A;Cross-references: UNIPROT:Q08714; EMBL:XG0296; NID:9396177; PIDN:CAA42938.1; PID:93961

C;Superfamily: inhibin

Query Match 100.0%; Score 145; DB 2; Length 130;

Best Local Similarity 100.0%; Pred. No. 3.9e-13; Matches 23; Conservative 0; N mismatches 0; Indels 0; Gaps 0;

No.	Score	Query	%	Match	Length	DB	ID	Description
1	145	100.0	130	2	148196			transforming growth
2	145	100.0	315	2	A40057			transforming growth
3	145	100.0	390	1	WFHU2			transforming growth
4	145	100.0	390	1	WFMS2			transforming growth
5	145	100.0	390	2	A26960			transforming growth
6	145	100.0	390	2	JG4023			transforming growth
7	145	100.0	390	2	A27512			transforming growth
8	145	100.0	390	2	I 146463			transforming growth
9	145	100.0	390	2	S10219			transforming growth
10	145	100.0	391	2	S01413			transforming growth
11	128	88.3	373	2	A41918			transforming growth
12	124	85.5	412	2	A39489			transforming growth
13	123	84.8	382	2	B61036			transforming growth
14	117	80.7	112	2	A61439			transforming growth
15	117	80.7	413	1	WEXLB2			transforming growth
16	117	80.7	414	1	WFMB2			transforming growth
17	117	80.7	414	1	WEMSB2			transforming growth
18	117	80.7	414	2	A31249			transforming growth
19	117	80.7	442	2	B31249			transforming growth
20	112	77.2	409	2	S01825			transforming growth
21	112	77.2	410	2	A41397			transforming growth
22	112	77.2	412	2	A36169			transforming growth
23	111	76.6	410	2	A55706			transforming growth
24	109	75.5	412	2	A34939			transforming growth
25	68	46.9	115	2	PN0504			activin beta A cha
26	68	46.9	360	2	A29619			Vgl embryonic grow
27	68	46.9	424	1	B40905			inhibitin beta-A cha
28	68	46.9	424	1	S31440			inhibitin beta-A cha
29	68	46.9	424	1	WPGBA			inhibitin beta-A cha



**RESULT 6**  
 JC4023 transforming growth factor beta-1 - dog  
 C;Species: Canis lupus familiaris (dog)  
 C;Date: 13-Jun-1995 #sequence\_revision 14-Jul-1995 #text\_change 09-Jul-2004  
 C;Accession: JC4023  
 R;Manning, A.M.; Auchampach, J.A.; Drong, R.F.; Slightom, J.L.  
 Gene 155, 307-308, 1995  
 A;Title: Cloning of a canine cDNA homologous to the human transforming growth factor-beta  
 A;Reference number: JC4023; MUID:95237630; PMID:7721110  
 A;Accession: JC4023  
 A;Molecule type: mRNA  
 A;Residues: 1-390 <MAN>  
 A;Cross-references: UNIPROT:P54831; GB:L34956; NID:9516071; PID:9516072  
 C;Comment: This factor plays a multifunctional role as a regulator of mammalian cell growth  
 C;Genetics:  
 A;Gene: tgf-beta1  
 C;Superfamily: growth factor; transforming protein  
 F;288-390/Product: transforming growth factor beta 1 #status predicted <MAT>  
**Query Match** 100.0%; Score 145; DB 2; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 1.1e-12;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
**Qy** 1 HEPKGYHANFCLGCPYIWSLDT 23  
**Db** 312 HEPKGYHANFCLGCPYIWSLDT 334

**RESULT 7**  
 A27512 transforming growth factor beta-1 precursor - pig  
 C;Alternate names: TGF-beta  
 C;Species: Sus scrofa domesticus (domestic Pig)  
 C;Date: 05-Jun-1988 #sequence\_revision 05-Jun-1988 #text\_change 09-Jul-2004  
 C;Accession: A27512; A26356; T46657  
 R;Deryckx, R.; Rhee, L.  
 Nucleic Acids Res. 15, 3187, 1987  
 A;Title: Sequence of the porcine transforming growth factor-beta precursor.  
 A;Reference number: A27512; MUID:87274844; PMID:3470708  
 A;Accession: A27512  
 A;Molecule type: mRNA  
 A;Residues: 1-390 <DER>  
 A;Cross-references: UNIPROT:P07200  
 R;Cheifetz, S.; Weatherbee, J.A.; Tsang, M.L.S.; Anderson, J.K.; Mole, J.E.; Lucas, R.;  
 A;Title: The transforming growth factor-beta system, a complex pattern of cross-reactive  
 A;Reference number: A90890; MUID:87102890; PMID:2879635  
 A;Accession: A26356  
 A;Molecule type: protein  
 A;Residues: 279-322 <CHE>  
 R;Kondaiah, P.; Van Obberghen-Schilling, E.; Ludwig, R.L.; Dhar, R.; Sporn, M.B.; Robert

J. Biol. Chem. 263, 18313-18317, 1988  
A;Title: cDNA cloning or porcine transforming growth factor-beta 1 mRNAs. Evidence for <  
A;Cross-references: GB:M23703; NID:9755044; PIDN:AA64616.1; PID:9755045  
A;Gene: TGF $\beta$ ; TGF-beta-1  
A;Status: preliminary; translated from GB/EMBL/DDBJ  
A;Molecule type: mRNA  
A;Residues: 1-390 <KON>  
C;Genetics:  
C;Superfamily: inhibitin  
C;Keywords: growth factor

Query Match 100.0%; Score 145; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 1.1e-12; Indels 0; Gaps 0;  
Matches 23; Conservative 0; Mismatches 0; Db 312 HEPKGYHANFCIGPCPYIWSLDT 334

RESULT 8  
I46463 transforming growth factor beta-1 - sheep  
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)  
C;Date: 19-Dec-1997 #sequence\_revision 19-Dec-1997 #text\_change 09-Jul-2004  
C;Accession: I46463; S45115  
R;Woodall, C.J.; McLaren, L.J.; Watt, N.J.  
Gene 150..371-373, 1994

A;Title: Sequence and chromosomal localisation of the gene encoding ovine latent transforming growth factor beta-1  
A;Reference number: I46463; MUID:95121932; PMID:7821809  
A;Accession: I46463  
A;Status: preliminary; translated from GB/EMBL/DDBJ  
A;Molecule type: mRNA  
A;Residues: 1-390 <WOO>  
A;Cross-references: UNIPROT:PS50414; EMBL:X76916; NID:9496648; PIDN:CAA54242.1; PID:9496648  
A;Note: submitted to the EMBL Data Library, December 1993  
C;Superfamily: inhibitin

Query Match 100.0%; Score 145; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 1.1e-12; Indels 0; Gaps 0;  
Matches 23; Conservative 0; Mismatches 0; Db 312 HEPKGYHANFCIGPCPYIWSLDT 334

RESULT 9  
S10219 transforming growth factor beta-1 precursor - rat  
N;Alternate names: TGF type 2; TGF-beta  
C;Species: Rattus norvegicus (Norway rat)  
C;Date: 12-Feb-1993 #sequence revision 12-Feb-1993 #text\_change 09-Jul-2004  
C;Accession: S10219; PT0023; S02267  
R;Qian, S.W.; Kondiah, P.; Roberts, A.B.; Sporn, M.B.  
Nucleic Acids Res. 18, 3059-1990

A;Title: cDNA cloning by PCR of rat transforming growth factor beta-1.  
A;Reference number: S10219; MUID:90272425; PMID:2349108  
A;Accession: S10219  
A;Molecule type: mRNA  
A;Residues: 1-390 <QIA>  
A;Cross-references: UNIPROT:P17246; EMBL:X52498; NID:957341; PIDN:CAA36741.1; PID:957342  
A;Accession: PT0023  
A;Molecule type: protein  
A;Residues: 30-32, 'X', 34-38, 'Q', 40-42, 'X', 44 <OK>  
R;Okada, F.; Yamaguchi, K.; Ichihara, A.; Nakamura, T.  
J. Biochem. 106, 304-310, 1989  
A;Title: Purification and structural analysis of a latent form of transforming growth factor beta-1.  
A;Reference number: PT0023; MUID:90036779; PMID:2478527

A;Title: One of two subunits of masking protein in latent TGF-beta is a part of pro-TGF-  
A;Reference number: 502267; MUID:89121078; PMID:2914605  
A;Accession: 502267  
A;Molecule type: protein  
A;Residues: 30-32,'X',34-38,'Q',40-42,'X',44 <OK2>  
C;Superfamily: inhibin  
C;Keywords: glycoprotein; growth factor; integrin binding  
F;1-29/Domain: signal sequence #status predicted <SIG>  
F;1-30-27/Domain: propeptide #status experimental <PRO>  
F;244-246/Region: cell attachment (R-G-D) motif  
F;279-390/Product: transforming growth factor beta-1 #status predicted <MAT>  
F;82,136,176/Binding site: carbohydrate (Asn) (covalent) #status predicted  
Query Match 100.0%; Score 145; DB 2; Length 390;  
Best Local Similarity 100.0%; Pred. No. 1.1e-12;  
Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Db 312 HEPKGYHANFCLGCPYIWSLDT 334

RESULT 10  
S01413  
transforming growth factor beta-1 precursor - chicken  
C;Species: Gallus gallus (chicken)  
C;Date: 30-Jun-1989 #sequence\_revision 30-Jun-1989 #text\_change 09-Jul-2004  
C;Accession: S01413  
R;Jakowlew, S.B.; Dillard, P.J.; Sporn, M.B.; Roberts, A.B.  
Nucleic Acids Res. 16, 8730, 1988  
A;Title: Nucleotide sequence of chicken transforming growth factor-beta 1 (TGF-beta 1).  
A;Reference number: S01413; MUID:88335639; PMID:3166520  
A;Accession: S01413  
A;Molecule type: DNA  
A;Residues: 1-391 <JAK>  
A;Cross-references: UNIPROT:P07200; EMBL:X12373; NID:963808; PIDN:CAA30933.1; PID:963809  
C;Superfamily: inhibin  
C;Keywords: growth factor  
C;Keywords: growth factor; growth regulation; mitogen; transformation  
Db 313 HEPKGYHANFCLGCPYIWSLDT 335

RESULT 11  
A41918  
transforming growth factor beta-4 precursor - chicken (fragment)  
N;Alternative names: TGF-beta 4  
C;Species: Gallus gallus (chicken)  
C;Accession: A41918; A34941; S03110  
R;Burt, D.W.; Jakowlew, S.B.  
Mol. Endocrinol. 6, 989-992, 1992  
A;Title: Correction: a new interpretation of a chicken transforming growth factor-beta 4  
A;Reference number: A41918; MUID:92357039; PMID:1353860  
A;Accession: A41918  
A;Molecule type: mRNA  
A;Residues: 1-73 <BUR>  
A;Cross-references: UNIPROT:P09531; GB:M31160; GB:X08012; GB:S41706; NID:91262437; PIDN:  
A;Note: sequence extracted from NCBI backbone (NCBIN:110106, NCBIPI:110187)  
A;Note: this report corrects and reinterprets the sequence from reference A34941  
R;Jakowlew, S.B.; Dillard, P.J.; Sporn, M.B.; Roberts, A.B.  
Mol. Endocrinol. 2, 1186-1195, 1988  
A;Title: Complementary deoxyribonucleic acid cloning of a messenger ribonucleic acid end  
A;Reference number: A34941; MUID:89112198; PMID:2464131  
A;Accession: A34941  
A;Molecule type: mRNA  
A;Residues: MPMSIGPKSCGGSPWPPGTAWSSRRATASSCSTSSRRRAEVGRL'; 122-209, 'D', 211-373 <

RESULT 12  
A39489  
transforming growth factor beta-2 precursor - chicken  
N;Alternative names: TGF-beta2  
C;Species: Gallus gallus (chicken)  
C;Date: 17-JUL-1992 #sequence\_revision 17-Jul-1992 #text\_change 09-Jul-2004  
C;Accession: A39489; A01018; S28849  
R;Burt, D.W.; Paton, I.R.  
DNA Cell Biol. 10, 723-734, 1991  
A;Title: Molecular cloning and primary structure of the chicken transforming growth factor  
A;Reference number: A39489; MUID:92075163; PMID:1683775  
A;Accession: A39489  
A;Molecule type: DNA  
A;Residues: 1-412 <BUR>  
A;Cross-references: UNIPROT:P30571; GB:X5P071; NID:963810; PIDN:CAA41101.1; PID:9833616;  
R;Jakowlew, S.B.; Dillard, P.J.; Sporn, M.B.; Roberts, A.B.  
Growth Factors 2, 123-133, 1990  
A;Title: Complementary deoxyribonucleic acid cloning of an mRNA encoding transforming growth factor beta-2. MUID:90253805; PMID:2340183  
A;Reference number: A61018  
A;Accession: A61018  
A;Status: not compared with conceptual translation  
A;Molecule type: mRNA  
A;Residues: 1-94, 'G', 96-244, 'L', 246-412 <JAK>  
C;Genetics:  
A;Intron: 115/1; 169/3; 214/1; 251/1; 309/2; 360/3  
C;Superfamily: inhibin  
C;Keywords: growth factor; growth regulation; mitogen; transformation  
F;1-26/Domain: signal sequence #status predicted <SIG>  
F;21-300/Domain: propeptide #status predicted <PRO>  
F;301-412/Product: transforming growth factor beta-2 #status predicted <MAT>  
Query Match 85.5%; Score 124; DB 2; Length 412;  
Best Local Similarity 82.6%; Pred. No. 9.3e-10;  
Matches 19; Conservative 1; Mismatches 3; Indels 0; Gaps 0;  
Db 334 HEPKGYHANFCAGACPYIWSSTD 356

RESULT 13  
B61036  
transforming growth factor beta-5 precursor - African clawed frog  
C;Species: Xenopus laevis (African clawed frog)  
C;Date: 31-Dec-1993 #sequence\_revision 03-Feb-1994 #text\_change 09-Jul-2004  
C;Accession: A34929; B61036  
R;Kondahal, P.; Sands, M.J.; Smith, J.M.; Fields, A.; Roberts, A.B.; Sporn, M.B.; Melton, J. Biol. Chem. 265, 1059-1053, 1990  
A;Title: Identification of a novel transforming growth factor-beta (TGF-beta5) mRNA in Xe  
A;Reference number: A4929; MUID:90110090; PMID:2295601  
A;Accession: A4929  
A;Molecule type: mRNA  
A;Residues: 1-382 <KON>  
A;Cross-references: UNIPROT:P16176; GB:J05180; NID:9214821; PIDN:AAA49968.1; PID:9214822  
R;Roberts, A.B.; Rose, P.; Roche, N.S.; Coligan, J.E.; Garfield, M.; Rebert, M.L.; Kondahal,  
Growth Factors 2, 135-147, 1990

A;Title: Isolation and characterization of TGF-beta2 and TGF-betas from medium condition  
A;Reference number: A61036; MUID:90253806; PMID:2340184  
A;Accession: B61036  
A;Molecule type: Protein  
A;Residues: 271-276, 'X', 278-284, 'XX', 287-299 <ROB>  
C;Superfamily: inhibin  
C;Keywords: growth factor  
F;P711-382/Product: transforming growth factor beta-5 #status experimental <MAT>  
Query Match 84.8%; Score 123; DB 2; Length 382;  
Best Local Similarity 82.6%; Pred. No. 1.2e-09;  
Matches 19; Conservative 2; Mismatches 2; Indels 0; Gaps 0;  
Qy 1 HEPKGYHANFCLGPCPYIWSLDT 23  
Db 304 HEPKGYEAANYCLGNCPYIWSNDT 326  
RESULT 14  
A61439  
A;Cross-references: UNIPROT:P17247; ENBL:X51817; NID:9414789; PIDN:CAA36116.1; PDB:96513  
A;Accession: S09510; MUID:90245678; PMID:2336403  
A;Molecule type: mRNA  
A;Residues: 1-413 <REB>  
C;Species: Bos primigenius taurus (cattle)  
C;Accession: A61439; A25485; B4220; S15389  
R.Jin, Y.; Cox, D.A.; Knecht, R.; Raschdorf, F.; Cerletti, N.  
J. Protein Chem. 10, 555-575, 1991  
A;Title: Separation, purification, and sequence identification of TGF-beta1 and TGF-beta  
A;Reference number: A61439; MUID:92189724; PMID:1799413  
A;Accession: A61439  
A;Molecule type: protein  
A;Residues: 1-112 <JIN>  
A;Cross-references: UNIPROT:P21214  
A;Experimental source: milk  
R.Seyedin, S.M.; Segarini, P.R.; Rosen, D.M.; Thompson, A.Y.; Bentz, H.; Graycar, J.  
J. Biol. Chem. 262, 1946-1949, 1987  
A;Title: Cartilage-inducing factor-B is a unique protein structurally and functionally related to TGF-beta1  
A;Reference number: A25485; MUID:87137406; PMID:3469199  
A;Accession: A25485  
A;Molecule type: protein  
A;Residues: 1-30 <SEY>  
A;Experimental source: bone  
R.Ogawa, Y.; Schmidt, D.K.; Dasch, J.R.; Chang, R.J.; Glaser, C.B.  
J. Biol. Chem. 267, 2325-2328, 1992  
R.Cox, D.A.; Buerk, R.R.  
EUR. J. Biochem. 197, 353-358, 1991  
A;Title: Isolation and characterisation of transforming growth factor-beta2.3 and -beta4  
A;Reference number: A42320; MUID:92129307; PMID:1733936  
A;Accession: B42320  
A;Molecule type: protein  
A;Residues: 1-6, 'X', 8-14, 'XX', 17-34 <OGA>  
A;Experimental source: bone  
R.Cox, D.A.; Buerk, R.R.  
EUR. J. Biochem. 197, 353-358, 1991  
A;Title: Isolation and characterisation of milk growth factor, a transforming-growth-factor-beta2.3  
A;Accession: S15389; MUID:91224126; PMID:2026157  
A;Molecule type: protein  
A;Residues: 1-16, 'XX', 19 <COX>  
A;Experimental source: milk  
C;Superfamily: inhibin  
C;Keywords: growth factor; growth regulation; heterodimer; homodimer  
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Best Local Similarity 78.3%; Pred. No. 2.7e-09;  
Matches 18; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
Qy 1 HEPKGYHANFCLGPCPYIWSLDT 23  
Db 34 HEPKGYNANFCAGACPYIWSSTD 56

RESULT 15  
WFKUB2  
transforming growth factor beta-2 precursor - African clawed frog  
A;Title: Isolation and characterization of TGF-beta2 and TGF-betas from medium condition  
A;Reference number: A61036; MUID:90253806; PMID:2340184  
A;Accession: B61036  
A;Molecule type: Protein  
A;Residues: 271-276, 'X', 278-284, 'XX', 287-299 <ROB>  
C;Superfamily: Xenopus laevis (African clawed frog)  
C;Keywords: Xenopus laevis (African clawed frog); sequence\_revision 19-Oct-1995 #text\_change 09-Jul-2004  
C;Accession: S09510; MUID:90253806; PMID:2340184  
R;Rebber, M.L.; Bhattacharyya, N.; David, I.B.  
Nucleic Acids Res. 18, 2185, 1990  
A;Title: The sequence of TGF-beta2 from *Xenopus laevis*  
A;Reference number: S09510; MUID:90245678; PMID:2336403  
A;Accession: S09510  
A;Molecule type: mRNA  
A;Residues: 1-413 <REB>  
A;Cross-references: UNIPROT:P17247; ENBL:X51817; NID:9414789; PIDN:CAA36116.1; PDB:96513  
A;Accession: A61036  
A;Molecule type: protein  
A;Residues: 302-307, 'X', 309-315, 'XX', 318-319 <ROB>  
C;Superfamily: inhibin  
C;Keywords: glycoprotein; growth factor; growth regulation; homodimer; nitrogen  
F;19/bdomain: signal sequence #status predicted <SG>  
F;20-301/Domain: propeptide #status predicted <PRO>  
F;302-413/Product: transforming growth factor beta-2 #status predicted <MAT>  
F;302-413/Binding site: carbohydrate (han) (covalent) #status predicted  
Query Match 80.7%; Score 117; DB 1; Length 413;  
Best Local Similarity 78.3%; Pred. No. 8.8e-09;  
Matches 18; Conservative 2; Mismatches 3; Indels 0; Gaps 0;  
Qy 1 HEPKGYHANFCLGPCPYIWSLDT 23  
Db 335 HEPKGYNANFCAGACPYIWSSTD 357

Search completed: June 14, 2005, 15:52:10  
Job time : 25.6538 secs

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GenCore version 5.1.6  
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OM protein - protein search, using SW model  
Run on: June 14, 2005, 15:34:23 ; Search time 122.962 Seconds  
Perfect score: US-09-831-253F-10

Sequence: 1 HEPKGYHANFCILGPCPYIWSLDT 23

BLOSUM62  
Gapop 10.0 , Gapext 0.5  
Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : UniProt 03:\*

1: uniprot\_sprot:\*

2: uniprot\_trembl:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES			
Result No.	Score	Query Match Length	DB ID
1	145	100.0	50 2 Q28240
2	145	100.0	51 2 Q72487
3	145	100.0	78 2 Q70316
4	145	100.0	112 2 Q02730
5	145	100.0	124 2 Q95N80
6	145	100.0	130 2 Q08714
7	145	100.0	315 1 TGF1_BOVIN
8	145	100.0	368 2 Q8r4D9
9	145	100.0	390 1 TGF1_CANFA
10	145	100.0	390 1 TGF1_CAVPO
11	145	100.0	390 1 TGF1_CERAB
12	145	100.0	390 1 TGF1_HORSE
13	145	100.0	390 1 TGF1_HUMAN
14	145	100.0	390 1 TGF1_MOUSE
15	145	100.0	390 1 TGF1_PIG
16	145	100.0	390 1 TGF1_RAT
17	145	100.0	390 1 TGF1_SHEEP
18	145	100.0	390 2 Q9Tumb
19	138	95.2	101 2 Q9R184
20	128	88.3	373 1 TGF1_CHICK
21	124	85.5	412 1 TGF1_XENLA
22	123	84.8	382 1 TGF1_XENLA
23	118	81.4	77 2 Q90YF8
24	118	81.4	88 2 Q90YF7
25	118	81.4	91 2 Q9MYZ1
26	118	81.4	361 2 Q98854
27	118	81.4	410 2 Q66123
28	118	81.4	410 2 Q7SZV3
29	118	81.4	411 2 Q7SZV4
30	117	80.7	62 2 Q90YF4
31	117	80.7	86 2 Q28241

ALIGNMENTS			
RESULT 1			
ID Q28240	PRELIMINARY;	PRT;	50 AA.
AC Q28240;			
DT 01-NOV-1996 (TREMBlrel. 01, Created)			
DT 01-NOV-2004 (TREMBlrel. 26, Last annotation update)			
DE Transforming growth factor beta 1 (TGF-beta 1) (Transforming growth factor B1) (Fragment)			
DE Name=TGFBI; Synonyms=TGF beta-1, TGF-B1;			
OS Cervus elaphus (Red deer)			
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae; Cervinae; Cervus.			
OC NCBI_TaxID=9860;			
RN [1]			
RP SEQUENCE FROM N.A.			
RC TISSUE=Antler;			
RX MEDLINE=98233260; PubMed=9571767;			
RX DOI=10.1002/(SICI)1097-010X(19980501)281:1<36::AID-JEZB>3.0.CO;2-D;			
RA Francis S.M.; Sutcliffe J.M.;			
RT "Detection of growth factors and proto-oncogene mRNA in the growing tip of red deer (Cervus elaphus) antler using reverse-transcriptase polymerase chain reaction (RT-PCR).";			
RT J. Exp. Zool. 281:36-42(1998).			
RT [2]			
RP SEQUENCE FROM N.A.			
RC TISSUE=Testis;			
RA Watanabe A., Blottner S., Pickel J.;			
RT "Detection of growth factors in the testes of roe deer (capreolus capreolus).";			
RT Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.			
CC -!- FUNCTION: TGF-BETA 1 IS A MULTIFUNCTIONAL PEPTIDE THAT CONTROLS PROLIFERATION, DIFFERENTIATION, AND OTHER FUNCTIONS IN MANY CELL TYPES. MANY CELLS SYNTHESIZE TGF-BETA 1 AND ESSENTIALLY ALL OF THEM HAVE SPECIFIC RECEPTORS FOR THIS PEPTIDE. TGF-BETA 1 REGULATES THE ACTIONS OF MANY OTHER PEPTIDE GROWTH FACTORS AND DETERMINES A POSITIVE OR NEGATIVE DIRECTION OF THEIR EFFECTS.			
CC -!- SUBUNIT: Homodimer; disulfide-linked (By similarity). CC -!- SIMILITRY: Belongs to the TGF-beta family.			
DR EMBL; U62110; AAU052561; .			
DR EMBL; AFU152591; AFU152591; .			
DR HSSP; P01137; IKA.			
DR GO; GO:0008083; P-cell proliferation; IEA.			
DR GO; GO:0008283; P-cell proliferation; IEA.			
DR GO; GO:000074; P-regulation of cell cycle; IEA.			
DR InterPro; IPR018189; TGFb.			
DR InterPro; IPR018189; TGFb.			
DR Pfam; PF00019; TGF beta; 1.			
DR PRODom; PD000357; TGFb; 1.			
DR SMART; SM02049; TGFb; 1.			
DR PROSITE; PS00045; TGF BETA; 1; 1.			
DR Glycoprotein; Growth Factor; Mitogen.			
FT NON_TER	1		
CHAIN <1	>50		
	TRANSFORMING GROWTH FACTOR BETA 1.		

P21214 bos taurus  
Q8d29 mus musculus  
Q92111 mus musculus  
Q9ab7 mesocricetus  
P17247 xenopus laevis  
P61811 cercoptilus  
P61812 homo sapiens  
P21090 mus musculus  
Q91VP5 mus musculus  
P02858 sub serotina  
Q01257 rattus norvegicus  
Q677C3 oryctolagus cuniculus  
Q9yf9 oncorynchus keta  
Q9o2j8 anguilla anguilla



SQ	SEQUENCE	112 AA; 12795 MW; 53C5B7146355A6P3 CRC64;	RN [2]
Query	1 HEPKGYHANFCLGCPYIWSLDT 23	100.0%; Score 145; DB 2; Length 112;	RN SEQUENCE OF 26-115 FROM N.A.
Best Local Similarity	100.0%; Pred. No. 3.5e-13; Mismatches 0;	PRED=SYRIAN; TISSUE=SPLEEN;	
Matches	Indels 0; Gaps 0;	STRAIN=SYRIAN; MEDLINE=98234044; PubMed=9573100;	
Db	34 HEPKGYHANFCLGCPYIWSLDT 56	Melby P.C., Tryon V.V., Chandrasekar B., Freeman G.L.; Rana Mehta P.C., Tryon V.V., Chandrasekar B., Freeman G.L.; RT "Cloning of Syrian hamster ( <i>Mesocricetus auratus</i> ) cytokine cDNAs and analysis of cytokine mRNA expression in experimental visceral leishmaniasis"; Immun. 66:2135-2142(1998).	
RESULT 5		RT Infec. Immun. 66:2135-2142(1998).	
Q95N80	PRELIMINARY; PRT; 124 AA.	CC -!- FUNCTION: TGF-BETA 1 IS A MULTIFUNCTIONAL PEPTIDE THAT CONTROLS PROLIFERATION, DIFFERENTIATION, AND OTHER FUNCTIONS IN MANY CELL TYPES. MANY CELLS SYNTHESIZE TGF BETA 1 AND ESSENTIALLY ALL OF CC THEM HAVE SPECIFIC RECEPTORS FOR THIS PEPTIDE. TGF-BETA 1 REGULATES THE ACTIONS OF MANY OTHER PEPTIDE GROWTH FACTORS AND DETERMINES A POSITIVE OR NEGATIVE DIRECTION OF THEIR EFFECTS.	
ID Q95N80		CC -!- SUBUNIT: HOMODIMER. DISULFIDE-LINKED.	
AC Q95N80:		CC -!- SIMILARITY: TO OTHER GROWTH FACTORS OF THE TGF-BETA FAMILY.	
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)		DR EMBL: X60296; CAA28381; -.	
DT 01-DEC-2001 (TREMBLrel. 26, last annotation update)		DR EMBL: AF046214; AAC40099.1; -.	
DB Transforming growth factor beta 1 (Fragment).		DR PIR; I48196; I48196.	
DR		DR HSSP: P01137; IKA.	
RA Fontara S., Groene A., Baumgaertner W.; Submitted (FEB-2001) to the EMBL/GenBank/DBJ databases.		DR GO; GO:000803; FGrowth factor activity; IEA.	
RL		DR PRODOM; P000357; TGFb; 1.	
CC -!- SIMILARITY: Belongs to the TGF-beta family.		DR SMART; SW00204; TGFb; 1.	
DR		DR PROSITE; PS00250; TGF_BETA_1; 1.	
EMBL: AF3349538; ARK54072.1; -.		DR GO; GO:0008283; P1cell proliferation; IEA.	
HSSP: P01137; IKA.		DR GO; GO:000074; P-regulation of cell cycle; IEA.	
GO; GO:000803; FGrowth factor activity; IEA.		DR INTERPRO; IPR001839; TGFb.	
DR Interpro; IPR001839; TGFb.		DR PTM; PFE0019; TGF beta; 1.	
DR Pfam; PF00019; TGFb; 1.		DR PRODOM; P000357; TGFb; 1.	
DR SMART; SW00204; TGFb; 1.		DR SMART; SW00204; TGF_BETA_1; 1.	
DR SMART; PS00250; TGF_BETA_1; 1.		DR GO; GO:0008283; P1cell proliferation; IEA.	
KW Growth factor.		DR GO; GO:000074; P-regulation of cell cycle; IEA.	
FT NON_TER 1 1		DR GO; GO:000803; FGrowth factor; Mitogen.	
FT NON_TER 1 1		DR GO; GO:000803; FGrowth factor; Mitogen.	
FT PROTEIN <1 18		FT PROTEIN <1 18	
FT CHAIN 19 130		FT CHAIN 19 130	
FT DISULFID 25 34		FT DISULFID 25 34	
FT DISULFID 33 96		FT DISULFID 33 96	
FT DISULFID 66 129		FT DISULFID 66 129	
FT DISULFID 95 95		FT DISULFID 95 95	
FT DISULFID 93 93		FT DISULFID 93 93	
FT CONFLICT 93 93		FT CONFLICT 93 93	
SQ SEQUENCE 124 AA; 14329 MW; 21D185218E5556DB CRC64;		FT CONFLICT 93 93	
Query Match 1 HEPKGYHANFCLGCPYIWSLDT 23		FT CONFLICT 93 93	
Best Local Similarity 100.0%; Pred. No. 3.5e-13; Mismatches 0;		FT CONFLICT 93 93	
Matches 23; Conservative 0; Mismatches 0;		FT CONFLICT 93 93	
Db 49 HEPKGYHANFCLGCPYIWSLDT 71		FT CONFLICT 93 93	
RESULT 6		FT CONFLICT 93 93	
Q88714	PRELIMINARY; PRT; 130 AA.	FT CONFLICT 93 93	
ID Q88714		FT CONFLICT 93 93	
AC 008714; 070331:		FT CONFLICT 93 93	
DT 01-NOV-1996 (TREMBLrel. 01, Created)		FT CONFLICT 93 93	
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)		FT CONFLICT 93 93	
DT 01-MAR-2004 (TREMBLrel. 26, last annotation update)		FT CONFLICT 93 93	
DB Transforming growth factor beta 1 (TGF-beta 1) (Fragment).		FT CONFLICT 93 93	
GN Name=TGFBI;		FT CONFLICT 93 93	
OS Mesocricetus auratus (Golden hamster).		FT CONFLICT 93 93	
OC Bokaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Rodentia; Sciuromorphathi; Muridae; Cricetinae; Oligocene.		FT CONFLICT 93 93	
OX NCBI_TaxID=10036;		FT CONFLICT 93 93	
RN [1]		FT CONFLICT 93 93	
RP SEQUENCE FROM N.A.		FT CONFLICT 93 93	
RC STRAIN=LNG (SYR); MEDLINE=93304479; PubMed=8317544;		FT CONFLICT 93 93	
RX RA Wong D.-T., Donoff R.B., Yang J., Song B.Z., Matossian K., Nagura N., Blovic A., McBride J., Gallagher G., Todd R.; "Sequential expression of transforming growth factors alpha and beta 1 by eosinophils during cutaneous wound healing in the hamster." Am. J. Pathol. 143:130-142(1993).		FT CONFLICT 93 93	
RX RA Baker C.C.; "Complementary deoxyribonucleic acid cloning of bovine transforming growth factor-beta 1"; Mol. Endocrinol. 1:693-698(1987).		FT CONFLICT 93 93	
RX RA van Oberghen-Schilling E., Kondiah P., Ludwig R.L., Sporn M.B., "Growth factor-beta 1"; Mol. Endocrinol. 1:693-698(1987).		FT CONFLICT 93 93	
RX RA SUBUNITS.		FT CONFLICT 93 93	

RC TISSUE=Bone;  
 RX MEDLINE=92129307; PubMed=1733936;  
 RA Ogawa Y.; Schmidt D.K.; Dasch J.R.; Chang R.J.; Glaser C.B.;  
 RT "Purification and characterization of transforming growth factor-beta  
 2.3 and -beta 1.2 heterodimers from bovine bone.";  
 RL J. Biol. Chem. 267:2325-2328(1992).

--!- FUNCTION: TGF-beta is a multifunctional peptide that control  
 proliferation, differentiation, and other functions in many cell  
 types. Many cells synthesize TGF-beta and essentially all of them  
 have specific receptors for this peptide. TGF-beta regulates the  
 actions of many other peptide growth factors and determines a  
 positive or negative direction of their effects. Play an important  
 role in bone remodelling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and  
 differentiation in committed osteopasts (BY similarity).  
 --!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 The inactive complex can contain a latent TGF-beta binding protein  
 (BY similarity). The active form is a homodimer of mature TGF-beta  
 1; disulfide-linked. Heterodimers of TGF-beta 1/2 have been found  
 in bone.

--!- SUBCELLULAR LOCATION: Secreted.

--!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP (BY similarity).

--!- SIMILARITY: Belongs to the TGF-beta family.

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 or send an email to license@isb-sib.ch).

CC EMBL; M56271; AAA30778.1; -.  
 DR PIR; A40057; A40057.  
 DR HSSP; P01137; I1KL.  
 DR InterPro; IPR002400; GP\_CYSKNOT.  
 DR InterPro; IPR003911; TGF\_TGFB.  
 DR InterPro; IPR001839; TGF5.  
 DR InterPro; IPR00111; TGFB\_N.  
 DR Pfam; PF00019; TGF\_beta\_1.  
 DR Pfam; PF00688; TGFB\_propeptide; 1.  
 DR PRINTS; PR01423; TGBETA.  
 DR PRODOM; PD000357; TGFB; 1.  
 DR SMART; S00204; TGFb; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 KW Glycoprotein; Growth Factor; Mitogen.  
 FT NON\_TER 1  
 FT PROTEP <1 203  
 FT CHAIN 204 315 Transforming growth factor beta 1.  
 FT DISULFID 210 219 By similarity.  
 FT DISULFID 218 281 By similarity.  
 FT DISULFID 247 312 By similarity.  
 FT DISULFID 251 314 Interchain (BY similarity).  
 FT DISULFID 280 280 N-linked (GLCNAC. . .) (BY similarity).  
 FT CARBOHYD 7 7 N-linked (GLCNAC. . .) (BY similarity).  
 FT CARBOHYD 61 61 N-linked (GLCNAC. . .) (BY similarity).  
 FT SITE 101 101 171 Cell attachment site (potential).  
 SQ SEQUENCE 315 AA; 36269 MW; C2717A3D994500R CRC64;

Query Match 100.0%; Score 145; DB 1; Length 315;  
 Best Local Similarity 100.0%; Pred No. 8. 2e-13;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 HEPKGYHANFCLGPCPYIWSLT 23  
 Db 237 HEPKGYHANFCLGPCPYIWSLT 259

RESULT 8

Q8RA19 ID Q8RA49 PRELIMINARY; PRT; 368 AA.  
 DR Q8RA49; AC; DT 01-JUN-2002 (TREMBLrel. 21, Created)  
 DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)  
 DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)  
 DE Transforming growth factor beta-1 protein (Fragment).  
 GN Name=TGFb1;  
 OS Sigmodon hispidus (Hispid cotton rat).  
 OC Eukaryote; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Sigmodontinae;  
 CC Sigmodon.  
 OC NCBI\_TaxID=42415;  
 RN [1];  
 RN SEQNCB FROM N.A.  
 RX Published=14980081; DOI=10.1089/107999004772719873;  
 RA Blanco J.C.; Pletnava L.; Boukhalova M.; Richardson J.Y.;  
 RA Harris K.A.; Prince G.A.;  
 RT "The cotton rat: an underutilized animal model for human infectious  
 diseases can now be exploited using specific reagents to cytokines,  
 chemokines, and interferons";  
 RT J. Interferon Cytokine Res. 24:21-28 (2004).  
 CC --!- SIMILARITY: Belongs to the TGF-beta family.  
 DR EMBL; AF080838; AAU87199.1; -.  
 DR HSSP; P01137; I1KL.  
 DR GO; GO:000083; FGrowth factor activity; IEA.  
 DR GO; GO:0005160; FG:transforming growth factor receptor bi. . .; IEA.  
 DR InterPro; IPR002400; GP\_CYSKNOT.  
 DR InterPro; IPR003911; TGF\_TGFB.  
 DR InterPro; IPR01839; TGFb1.  
 DR InterPro; IPR00111; TGFB\_N.  
 DR InterPro; IPR003911; TGF\_TGFB.  
 DR Pfam; PF00688; TGFB\_propeptide; 1.  
 DR Pfam; PR00019; TGF\_beta\_1.  
 DR PRINTS; PR01423; TGBETA.  
 DR PRINTS; PR01424; TGFBeta1.  
 DR PRODOM; PD000357; TGFB; 1.  
 DR SMART; S00204; TGFb; 1.  
 DR PROSITE; PS00250; TGF\_BETA\_1; 1.  
 KW Growth factor.  
 FT NON\_TER 1  
 SQ SEQUENCE 368 AA; 41905 MW; A5C91207B0468B4A CRC64;  
 Query Match 100.0%; Score 145; DB 2; Length 368;  
 Best Local Similarity 100.0%; Pred No. 9. 4e-13;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HEPKGYHANFCLGPCPYIWSLT 23  
 Db 290 HEPKGYHANFCLGPCPYIWSLT 312

RESULT 9

TGF1\_CANFA ID TGF1\_CANFA STANDARD; PRT; 390 AA.  
 AC P54331;  
 DT 01-OCT-1996 (Rel. 34, Created)  
 DT 01-OCT-1996 (Rel. 34, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
 GN Name=TGFb1;  
 OS Canis familiaris (Dog).  
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.  
 OC NCBI\_TaxID=9615;  
 RN [1];  
 RN SEQUENCE FROM N.A.  
 RC TISSUE=jugular vein endothelial;  
 RX MEDLINE=95237630; PubMed=772110; DOI=10.1016/0378-1119(94)00903-6;  
 RA Manning A.M., Auchampach J.A., Drong R.F., Slightom J.L.;  
 "Cloning of a canine cDNA homologous to the human transforming growth

RT factor-beta 1-encoding gene.";

RL Gene 155:307-308(1995).

CC -!- FUNCTION: TGF-beta is a multifunctional peptide that control proliferation, differentiation, and other functions in many cell types. Many cells synthesize TGF-beta and essentially all of them have specific receptors for this peptide. TGF-beta regulates the actions of many other peptide growth factors and determines a positive or negative direction of their effects. Play an important role in bone remodelling. It is a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and differentiation in committed osteoblasts (By similarity).

CC -!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-covalently linked to a latency-associated peptide (LAP) homodimer.

CC The inactive complex can contain a latent TGF-beta binding protein. The active form is a homodimer of mature TGF-beta 1; disulfide-linked (By similarity).

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1 and LAP (By similarity).

CC -!- SIMILARITY: Belongs to the TGF-beta family.

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EMBL: IJ4956; AAA51458.1; -.

DR PIR: JCB023; JC4023.

DR HSSP; P01137; I1KA.

DR InterPro; IPR002400; GF\_CYSKNOT.

DR PRINTS; PR00438; GFCYSKNOT.

DR InterPro; IPR001839; TGFb.

DR Prodom; PD000357; TGFB; 1.

DR SMART; SM0024; TGFB; 1.

DR PROSITE; PS00250; TGF\_BETA\_1; 1.

KW Glycoprotein; Growth Factor; Mitogen; Signal.

FT SIGNAL 1 29 By similarity;

FT PROPER 30 278 Latency-associated peptide (By similarity); Transforming growth factor beta 1.

FT CHAIN 279 390 Transforming growth factor beta 1.

FT DISULFID 285 294 By similarity.

FT DISULFID 293 356 By similarity.

FT DISULFID 322 387 By similarity.

FT DISULFID 326 389 By similarity.

FT DISULFID 355 355 Interchain.

FT CARBOHYD 82 N-linked (GlcNAc. . .) (By similarity).

FT CARBOHYD 136 N-linked (GlcNAc. . .) (By similarity).

FT CARBOHYD 176 N-linked (GlcNAc. . .) (By similarity).

FT SITE 246 246 Cell attachment site (Potential).

SQ SEQUENCE 390 AA; 44185 MW; EB4780E8B87B590E CRC64;

Query Match 100.0%: Score 145; DB 1; Length 390; Best Local Similarity 100.0%; Pred. No. 9.9e-13; Mismatches 0; Matches 23; Conservative 0; Indels 0; Gaps 0;

Oy 1 HEPKYHANFLGLCPGPYIWLDT 23  
||| ||||| ||||| ||||| ||||| ||||| 334

RESULT 10

TGFL\_CAVPO ID\_TGFL\_CAVPO STANDARD; AC\_Q9ZY6; O9QZB3; Q91A8; DT 16-OCT-2001 (Rel. 40, last sequence update)

DR Name=TGFBL1; GN Cavia porcellus (Guinea pig).  
OC Eukaryota; Metazoa; Craniata; Vertebrata; Buteostomia;  
NCBI\_TaxID=10141; RN [1]

DR SEQUENCE FROM N.A.

RC STRAIN=Hartley;

RA Jeevan A.; McMurray D.N.; Yoshimura T.;  
Scarozza A.M.; Ransingh A.I.; Wicher V.; Wicher K.;  
"Spontaneous cytokine gene expression in normal guinea pig blood and tissues"; Cytokine 10:851-859(1998).

RR SEQUENCE OF 279-371 FROM N.A.  
RN [3]

RC STRAIN=Hartley; TISSUE=Trachea;  
Morishima Y.; Uchida Y.; Nomura A.; Ishii Y.; Sakamoto T., RA Sekizawa K.;  
"Guinea-pig transforming growth factor-beta expression in injured tracheal epithelium.," Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.

RC -!- FUNCTION: Multifunctional peptide that controls proliferation, differentiation, and other functions in many cell types. Many cells synthesize TGF-beta 1 and essentially all of them have specific receptors for this peptide. TGF-beta 1 regulates the actions of many other peptide growth factors and determines a positive or negative direction of their effects. Play an important role in bone remodelling. It is a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and differentiation in committed osteoblasts (By similarity).

CC -!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-covalently linked to a latency-associated peptide (LAP) homodimer. The inactive complex can contain a latent TGF-beta binding protein. The active form is a homodimer of mature TGF-beta 1; disulfide-linked (By similarity).

CC -!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1 and LAP (By similarity).

CC -!- SIMILARITY: Belongs to the TGF-beta family.

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DR EMBL; AF097509; AAC83807.1; -.

DR EMBL; AF191297; AF02780.1; -.

DR EMBL; AF169347; AF049347.1; -.

DR HSSP; P01137; I1KA.

DR InterPro; IPR002400; GF\_CYSKNOT.

DR InterPro; IPR003911; TGF\_GTRB.

DR InterPro; IPR001839; TGFb.

DR InterPro; IPR001111; TGFB\_N.

DR Pfam; PF00688; TGF\_beta; 1.

DR PRINTS; PR00438; GFCYSKNOT.

DR InterPro; IPR0123; TGFBETA.

DR Prodom; PD000357; TGFB; 1.

DR SMART; SM0024; TGFB; 1.

DR PROSITE; PS00250; TGF\_BETA\_1; 1.

KW Glycoprotein; Growth Factor; Mitogen; Signal.

FT SIGNAL 1 29  
 FT PROPEP 30 278  
 FT CHAIN 279 390  
 FT DISULFID 285 294  
 FT DISULFID 293 356  
 FT DISULFID 322 387  
 FT DISULFID 326 389  
 FT CARBOHYD 355 82  
 FT CARBOHYD 136 136  
 FT CARBOHYD 176 176  
 FT SITE 244 246  
 FT CONFLICT 279 279  
 FT CONFLICT 286 309  
 FT CONFLICT 322 322  
 FT CONFLICT 350 350  
 SQ SEQUENCE 390 AA; 44328 MW; 1539F849BA0COFF1 CRC64;

Query Match 100.0%; Score 145; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 9.9e-13;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 HEPKGYHANFLGCPYIWSLDT 23  
 Db 312 HEPKGYHANFLGCPYIWSLDT 334

RESULT 11  
 TGF1\_CERAE  
 ID TGF1\_CERAE STANDARD PRT: 390 AA.  
 AC P0533;  
 DT 01-MAR-1989 (Rel. 10, Created)  
 DT 01-MAR-1989 (Rel. 10, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
 GN Name=TGB1;  
 OS Cercopithecus aethiops (Green monkey) (Grivet).  
 OC Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;  
 OC Cercopithecinae; Cercopithecus.  
 OX NCBI\_TaxID=9534;  
 [1]  
 RN SEQUENCE FROM N.A.  
 RP MEDLINE:87246074; PubMed=3474130;  
 RA Sharples K., Plowman G.D., Rose T.M., Twardzik D.R., Purchio A.F.,  
 RT "Cloning and sequence analysis of simian transforming growth factor-  
 beta cDNA";  
 RL DNA 6:239-244 (1987).  
 RN [2]  
 RP GLYCOSYLATION.  
 RX PubMed=2971654;  
 RA Kovacina K.S., Roth R.A., Marguardt H.;  
 RT "Identification of mannose 6-phosphate in two asparagine-linked sugar  
 chains of recombinant transforming growth factor-beta 1 precursor.";  
 RL J. Biol. Chem. 263:14211-14215 (1988).  
 RP CHARACTERIZATION.  
 RP PubMed=3185545;  
 RA Gentry L.E., Lioubin M.N., Purchio A.F., Marguardt H.;  
 RT "Molecular events in the processing of recombinant type 1 pre-pro-  
 transforming growth factor beta to the mature polypeptide.";  
 RL Mol. Cell. Biol. 8:4162-4168 (1988).  
 CC -1- FUNCTION: Multifunctional peptide that controls proliferation,  
 differentiation, and other functions in many cell types. Many  
 cells synthesize TGF-beta 1 and essentially all of them have  
 specific receptors for this peptide. TGF-beta 1 regulates the  
 actions of many other peptide growth factors and determines a  
 positive or negative direction of their effects. Play an important  
 role in bone remodelling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and

CC differentiation in committed osteoblasts (By similarity).  
 CC -1- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 CC The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1.  
 CC disulfide-linked.  
 CC -1- SUBCELLULAR LOCATION: Secreted.  
 CC -1- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP, which remains non-covalently linked to mature TGF-beta 1  
 rendering it inactive.  
 CC -1- SIMILARITY: Belongs to the TGF-beta family.

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 use by non-profit institutions as long as its content is in no way  
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 or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).

CC -----  
 DR EMBL; MI6658; AAA25369.1; -.  
 DR PIR; A26940; A26940.  
 DR InterPro; IPR003911; TGFb.  
 DR InterPro; IPR001839; TGFb.  
 DR InterPro; IPR01111; TGFb\_N.  
 DR Pfam; PF00019; TGF beta\_1.  
 DR Pfam; PF00689; TGFb\_propeptide; 1.  
 DR PRIMUS; PR00438; GF\_CYSNOT.  
 DR PRINTS; PRO1423; TGFbeta.  
 DR PRODOM; PD000357; TGFb\_1.  
 DR SMART; SM00204; TGFb\_1.  
 DR PROSITE; PS00250; TGF BETA\_1; 1.  
 KW GLYCOPROTEIN; Growth Factor; Mitogen; Signal.  
 FT SIGNAL 1 29  
 FT PROPEP 30 278  
 FT CHAIN 279 390  
 FT DISULFID 285 294  
 FT DISULFID 293 356  
 FT DISULFID 322 387  
 FT DISULFID 326 389  
 FT DISULFID 355 355  
 FT CARBOHYD 82 82  
 FT CARBOHYD 136 136  
 FT CARBOHYD 176 176  
 FT SITE 244 246  
 SQ SEQUENCE 390 AA; 44356 MW; DDF63E2BAB443208 CRC64;

Query Match 100.0%; Score 145; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 9.9e-13;  
 Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 Qy 1 HEPKGYHANFLGCPYIWSLDT 23  
 Db 312 HEPKGYHANFLGCPYIWSLDT 334

RESULT 12  
 TGF1\_HORSE  
 ID TGF1\_HORSE STANDARD PRT: 390 AA.  
 AC O19011;  
 DT 15-JUL-1998 (Rel. 36, Created)  
 DT 15-JUL-1998 (Rel. 36, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
 GN Name=TGB1;  
 OS Equus caballus (Horse).  
 OC Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
 OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.  
 OX NCBI\_TaxID=9796;  
 RN [1]  
 RP SEQUENCE FROM N.A.

RC TISSUE=Lymph node; AC P01137; Q9UCG4;  
 RX MEDLINE=98185507; PubMed=952419;  
 RA Penha-Goncalves M.N.; Onions D.E.; Nicolson L.; DE  
 RT "Cloning and sequencing of equine transforming growth factor-beta 1  
 RL DNA Seq. 7:375-378(1997).  
 CC -1- FUNCTION: TGF-beta 1B is a multifunctional peptide that control  
 proliferation, differentiation, and other functions in many cell  
 types. Many cells synthesize TGF-beta and essentially all of them  
 have specific receptors for this peptide. TGF-beta regulates the  
 actions of many other peptide growth factors and determines  
 positive or negative direction of their effects. Play an important  
 role in bone remodeling. It is a potent stimulator of  
 osteoblastic bone formation, causing chemotaxis, proliferation and  
 differentiation in committed osteoblasts (BY similarity).  
 CC -1- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
 covalently linked to a latency-associated peptide (LAP) homodimer.  
 CC The inactive complex can contain a latent TGF-beta binding  
 protein. The active form is a homodimer of mature TGF-beta 1;  
 CC disulfide-linked (BY similarity).  
 CC --!- SUBCELLULAR LOCATION: Secreted.  
 CC --!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
 and LAP (BY similarity).  
 CC --!- SIMILARITY: Belongs to the TGF-beta family.

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 or send an email to license@isb-bib.ch).

CC EMBL: X99438; CAA67801.1; -.  
 DR HSSP: PRO00438; IMLA.  
 DR InterPro: IPR002400; GF\_CYSKNOT.  
 DR InterPro: IPR00391; TGFB\_TGFB.  
 DR InterPro: IPR00183; TGFB\_N.  
 DR Pfam: PF00019; TGF\_beta\_1.  
 DR Pfam: PF00688; TGFB\_propeptide\_1.  
 DR PRINTS: PR01423; TGFBETA.  
 DR PRODOM: PDO00357; TGFB\_1.  
 DR SMART: SM00204; TGFB\_1.  
 DR ROSITE: PS00250; TGF\_BETA\_1.  
 KW Glycoprotein; Growth Factor; Nitogen; Signal.  
 FT SIGNAL 1 29  
 PT PROPEP 30 278  
 FT CHAIN 279 390  
 PT DISULFID 285 294  
 PT DISULFID 293 356  
 PT DISULFID 322 387  
 PT DISULFID 326 389  
 PT DISULFID 355 355  
 PT CARBOHYD 82 82  
 PT CARBOHYD 136 136  
 PT CARBOHYD 176 176  
 SQ SEQUENCE 390 AA; 43974 MW; A860715|44549691 CRC64;

Query Match Score 145; DB 1; Length 390;  
 Best Local Similarity 100.0%; Pred. No. 9.9e-13;  
 Matches 23; Conservative 0; Mismatches 10; Indels 0; Gaps 0;

OY 1 HEPKGTHANFCLGCPYIWSLT 23  
 ||||| ||||| ||||| ||||| |||||  
 Db 312 HEPKGTHANFCLGCPYIWSLT 334

RESULT 13  
 ID TGF1\_HUMAN STANDARD; PRT; 390 AA.

AC P01137; Q9UCG4;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 RC 01-FEB-1991 (Rel. 17, Last sequence update)  
 DT 25-OCT-2004 (Rel. 45, Last annotation update)  
 DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
 GN Name=TGBB; Synonyms=TGBB;  
 OS Homo sapiens (Human).  
 OC Buxaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
 NCBI\_TAXID=9606;  
 RN [1]-  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=87174845; PubMed=3470709;  
 RA Deryck R., Rhee L., Chen E.Y., van Tilburg A.; growth factor-beta  
 RT "Intron-exon structure of the human transforming growth factor-beta  
 precursor gene.";  
 RA Assoian R.K., Roberts A.B., Sporn M.B., Goeddel D.V.;  
 Nucleic Acids Res. 15:3188-3189(1987).  
 RN [2]-  
 RP SEQUENCE FROM N.A. AND VARIANT PRO-10.  
 RX MEDLINE=85296301; PubMed=3861940;  
 RA Deryck R., Jarrett J.A., Chen E.Y., Baton D.H., Bell J.R.,  
 Diatchenko L., Roberts A.B., Sporn M.B., Goeddel D.V.,  
 RT "Human transforming growth factor-beta complementary DNA sequence and  
 expression in normal and transformed cells";  
 RN Nature 316:701-705(1985).  
 RN [3]-  
 RP SEQUENCE FROM N.A.  
 RX TISSUE=duodenum, and Eye;  
 RX MEDLINE=22388257; PubMed=1247932; DOI=10.1073/pnas.242603899;  
 RA Strauberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 Klausner R.D., Collins F.S., Wagner L.J., Shevchenko C.M., Schuler G.D.,  
 Altschul S.F., Zeeberg B., Blueton K.H., Schaefer C.F., Bhat N.K.,  
 Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
 Diatchenko L., Marszina K., Farmer A.A., Rubin G.M., Hong L.,  
 Stapleton M., Soares M.B., Ronald M.F., Caravati T.L., Scheetz T.E.,  
 RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,  
 RA Bosak S.A., McBrown P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalon D.K., Muzyk D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahey J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,  
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J.J., Schmutz J., Myers R.M.,  
 RA Butterfield Y.S.N., Krzywinski M.I., Salska U., Smailus D.E.,  
 RA Schnarch A., Schein J.E., Jones S.J.M., Marra M.A.,  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 RN [4]-  
 RP SEQUENCE OF 279-390 FROM N.A.  
 RX TISSUE=Carcinoma;  
 RA Urushizaki Y., Niiteu Y., Terui T., Koshida Y., Mahara K., Kohgo Y.,  
 RA Urushizaki I., Takahashi Y., Ito H.;  
 RT "Cloning and expression of the gene for human transforming growth  
 factor-beta in Escherichia coli.;"  
 RL Tumor Res. 22:41-55(1987).  
 RN [5]-  
 RP SEQUENCE OF 279-329.  
 RX TISSUE=Bladder carcinoma;  
 MEDLINE=93229900; PubMed=8471846; DOI=10.1006/prep.1993.1019;  
 RA Bourcier L., Lin C.-H., Lauren S.L., Elmore R.H., Sugarmann B.J.,  
 RA Hu S., Westcott K.R.;  
 RT "Recombinant human transforming growth factor-beta 1: expression by  
 RT Chinese hamster ovary cells, isolation, and characterization.";  
 RL Protein Expr. Purif. 4:130-140(1993).  
 RN [6]-  
 RP SEQUENCE OF 279-301.  
 RX MEDLINE=85131019; PubMed=2982829;  
 RA Massagué J., Like B.;  
 RT "Cellular receptors for type beta transforming growth factor. Ligand  
 binding and affinity labeling in human and rodent cell lines.";  
 J. Biol. Chem. 260:2636-2645(1985).

- RN [7] SEQUENCE OF 30-42 AND 279-290, AND CHARACTERIZATION.  
RP RX PubMed=3162913;  
RA "Mizazono K., Hellman U., Wernstedt C., Heldin C.H.;  
RT "latent high molecular weight complex of transforming growth factor  
RT beta 1. purification from human platelets and structural  
RT characterization."; J. Biol. Chem. 263:6407-6415(1988).  
RL RN [8] REVIEW.  
RP RX PubMed=9150447;  
RA "Kidney Int. 51:1376-1382(1997)."  
RN [9] STRUCTURE BY NMR OF 279-390.  
RP RX MEDLINE=93144319; PubMed=8424942;  
RA Archer S.J., Bax A., Roberts A.B., Sporn M.B., Ogawa Y., Piez K.A.,  
RA Weatherbee J.A., Tsang M.L.-S., Lucas R., Zheng B.-L., Wenker J.,  
RA Torchia D.A.; "Transforming growth factor beta 1: NMR signal assignments of the  
RT recombinant protein expressed and isotopically enriched using Chinese  
RT hamster ovary cells"; Biochemistry 32:1152-1163(1993).  
RL RN [10] STRUCTURE BY NMR OF 279-390.  
RP RX MEDLINE=93144320; PubMed=8424943;  
RA Archer S.J., Bax A., Roberts A.B., Sporn M.B., Ogawa Y., Piez K.A.,  
RA Weatherbee J.A., Tsang M.L.-S., Lucas R., Zheng B.-L., Wenker J.,  
RA Torchia D.A.; "Transforming growth factor beta 1: secondary structure as determined  
RT by heteronuclear magnetic resonance spectroscopy.";  
RL Biochemistry 32:1164-1171(1993).  
RN [11] STRUCTURE BY NMR OF 279-390.  
RP RX MEDLINE=96266150; PubMed=8679613; DOI=10.1021/bi9604946;  
RA Hinck A.P., Archer S.J., Qian S.W., Roberts A.B., Sporn M.B.,  
RA Weatherbee J.A., Tsang M.L.-S., Lucas R., Zheng B.-L., Wenker J.,  
RA Torchia D.A.; "Transforming growth factor beta 1: three-dimensional structure in  
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RT growth factor beta 2"; Biochemistry 35:8517-8534(1996).  
RL RN [12] TISSUE SPECIFICITY.  
RP RX PubMed=11746498; DOI=10.1002/jcb.1249;  
RA Shur T., Loktev F., Bleiberg I., Benavahud D.; "Differential gene expression of cultured human osteoblasts.";  
RT RL J. Cell. Biochem. 83:547-553(2001).  
RN [13] VARIANT PRO-10.  
RP RX PubMed=9783545;  
RA Yamada Y., Miyauchi A., Goto J., Takagi Y., Okuzumi H., Kanematsu M.,  
RA Hase M., Takai H., Harada A., Ikeda K.; "Association of a polymorphism of the transforming growth factor-beta1  
RT gene with genetic susceptibility to osteoporosis in postmenopausal  
RT Japanese women."; J. Bone Miner. Res. 13:1569-1576(1998).  
RL RN [14] VARIANTS CED CYS-218; HIS-218 AND ARG-225.  
RP RX PubMed=0973241; DOI=10.1038/79128;  
RA Kinoshita A., Saito T., Tomita H., Makitta Y., Yoshiida K., Ghadami M.,  
RA Yamada K., Kondo S., Ikegawa S., Nishimura G., Fukushima Y.,  
RA Nakagomi T., Saito H., Sugimoto T., Kamagaya M., Hisa K., Murray J.C.,  
RA Taniguchi N., Niikawa N., Yoshiura K.; "Domain-specific mutations in TGFBI result in Camurati-Engelmann  
RT disease."; Nat. Genet. 26:19-20(2000).  
RN [15] VARIANTS CED HIS-81; CYS-218 AND ARG-225.  
RP PubMed=11062463; DOI=10.1038/81563;
- Janssens K., Gershoni-Baruch R., Guanabens N., Migone N., Ralston S.,  
RA Bonduelle M., Lissens W., Van Maldergem L., Vanhoenacker P.,  
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RL RN [16] VARIANT PRO-10.  
RP RX PubMed=12202987; DOI=10.1003/8000069;  
RA Watnabe Y., Kinoshita A., Yamada T., Ohta T., Kishino T.,  
RA Matsumoto N., Ishikawa M., Niikawa N., Yoshiura K.; "A catalog of 106 single-nucleotide polymorphisms (SNPs) and 11 other  
RT types of variations in genes for transforming growth factor-beta1 (TGF-beta1) and its signaling pathway.";  
RT J. Hum. Genet. 47:478-483(2002).  
RN [17] CHARACTERIZATION OF VARIANTS CED HIS-81; CYS-218; ASP-222 AND ARG-225.  
RP RX PubMed=12493741; DOI=10.1074/jbc.M208057200;  
RA Janssens K., ten Dijke P., Ralston S.H., Bergmann C., Van Hul W.; "Transforming growth factor-beta1 mutations in Camurati-Engelmann disease lead to increased signaling by altering either activation or secretion of the mutant protein.";  
RL J. Biol. Chem. 278:7718-7724(2003).  
RN [18] CHARACTERIZATION OF VARIANT CYS-218.  
RP RX PubMed=12843182; DOI=10.1210/jbc.2002-020564;  
RA McGowan N.W., Macpherson H., Janssens K., Van Hul W., Frith J.C.,  
RA Fraser W.D., Ralston S.H., Helfrich M.H.; "A mutation affecting the latency-associated peptide of TGFbeta1 in Camurati-Engelmann disease enhances osteoclast formation in vitro.";  
RT RL J. Clin. Endocrinol. Metab. 88:3321-3326(2003).  
CC C FUNCTION: Multifunctional peptide that controls proliferation,  
CC differentiation, and other functions in many cell types. Many  
CC cells synthesize TGF-beta 1 and essentially all of them have  
CC specific receptors for this peptide. TGF-beta 1 regulates the  
CC actions of many other peptide growth factors and determines a  
CC positive or negative direction of their effects. Play an important  
CC role in bone remodelling. It is a potent stimulator of osteoblastic bone formation, causing chemotaxis, proliferation and  
CC differentiation in committed osteoblasts (By Similarity).  
CC -I SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
CC covalently linked to a latency-associated peptide (LAP) homodimer.  
CC The inactive complex can contain a latent TGF-beta binding  
CC protein. The active form is a homodimer of mature TGF-beta 1;  
CC disulfide-linked.  
CC -I SUBCELLULAR LOCATION: Secreted.  
CC -I INDUCTION: Activated in vitro at pH below 3.5 and over 12.5.  
CC -I TISSUE SPECIFICITY: Highly expressed in bone.  
CC -I SUBCELLULAR LOCATION: (By similarity). The precursor is cleaved into  
CC mature TGF-beta 1 and LAP.  
CC -I POLYMORPHISM: In post-menopausal Japanese women, the frequency of  
CC Leu-10 is higher in subjects with osteoporosis than in controls.  
CC -I DISEASE: Defects in TGFBI are the cause of Camurati-Engelmann  
Query Match 100 %; Score 145; DB 1; Length 390;  
Best Local Similarity 100 %; Pred. No. 9; 9e-13; Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
Oy Db 312 HEPKQYHANFCLGCPYWSLDT 334  
OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
OC NCBItaxID=10090;  
RN [1] \_SEQUENCE FROM N.A.  
RX MEDLINE=86168129; PubMed=3007454;  
RA Deryck R., Jarrett J.A., Chen E.Y., Goeddel D.V.; "The murine transforming growth factor-beta precursor.",  
RT J. Biol. Chem. 261:4377-4379(1986).  
RN [2] \_SEQUENCE FROM N.A.  
RX SEQUENCE FROM N.A.  
RC STRAIN=BALB/c;  
RX MEDLINE=9096545; PubMed=8522200; DOI=10.1016/0378-1119(95)00460-N;  
RA Guron C., Sagarshan C., Raghow R.; "Molecular organization of the gene encoding murine transforming  
RT growth factor beta 1.", Gene 165:325-326(1995).  
RL [3] \_SEQUENCE FROM N.A.  
RN SEQUENCE FROM N.A.  
RP STRAIN=FVB/N; TISSUE=Pancreas;  
RX MEDLINE=2238257; PubMed=1247932; DOI=10.1073/pnas.242603899;  
RA Klausner R.D., Collins F.S., Wagner D., Schaefer C.F., Bhat N.K.,  
RA Alleschul S.F., Zeberg B., Buetow K.H., Grouse L.H., Derge J.G.,  
RA Hopkins R.L., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
RA Stapleton M., Soares M.B., Bandal M.P., Casavant T.L., Scheetz T.E.,  
RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carmi P., Prange C.,  
RA Rana S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullally S.J.,  
RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
RA Villalon D.K., Muzny D.C., Sodergren E.J., Lu X., Gibbs R.A.,  
RA Fahay J., Helton E., Kettman M., Madan A., Rodriguez S., Sanchez A.,  
RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,  
RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,  
RA Butterfield Y.S.N., Krzywinski M.I., Skalnik D.E.,  
RA Schmerch A., Schein J.E., Jones S.J.M., Marra M.A.; "Generation and initial analysis of more than 15,000 full-length human  
RT and mouse cDNA sequences.", Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).  
CC -!- FUNCTION: TGF beta is a multifunctional peptide that control  
proliferation, differentiation, and other functions in many cell  
types. Many cells synthesize TGF-beta and essentially all of them  
have specific receptors for this peptide. TGF-beta regulates the  
actions of many other peptide growth factors and determines a  
positive or negative direction of their effects. play an important  
role in bone remodelling. It is a potent stimulator of  
osteoblastic bone formation, causing chemotaxis, proliferation and  
differentiation in committed osteoblasts (BY similarity).  
CC -!- SUBUNIT: The inactive form consists of a TGF-beta 1 homodimer non-  
covalently linked to a latency-associated peptide (LAP) homodimer.  
The inactive complex can contain a latent TGF-beta binding  
protein. The active form is a homodimer of mature TGF-beta 1;  
CC disulfide-linked (BY similarity).  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- PTM: Glycosylated. The precursor is cleaved into mature TGF-beta 1  
and LAP (BY similarity).  
CC -!- SIMILARITY: Belongs to the TGF-beta family.

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CC -----  
CC  
DR EMBL; MU3177; AAA0423 1; -;  
DR EMBL; Lu2462; AAB00138 1; -;  
DR EMBL; Lu2456; AAB00138 1; JOINED.  
DR EMBL; Lu2457; AAB00138 1; JOINED.  
DR EMBL; Lu2458; AAB00138 1; JOINED.  
DR EMBL; Lu2459; AAB00138 1; JOINED.  
DR EMBL; Lu2460; AAB00138 1; JOINED.  
DR EMBL; Lu4261; AAB00138 1; JOINED.  
DR EMBL; Lu4262; AAB008900 1; -;  
DR EMBL; AD009862; CAR008900 1; -;  
DR PIR; A0396; WFMS2.  
DR HSSP; P01137; ICKA.  
DR MGD; MGI:98725; Tgfb1.  
DR GO; GO:0005578; Extracellular matrix; IDA.  
DR GO; GO:0006954; P:Inflammatory response; IDA.  
DR GO; GO:0016202; P:Regulation of myogenesis; IDA.  
DR GO; GO:0042306; P:Regulation of protein-nucleus import; IDA.  
DR GO; GO:0007515; P:Transformation growth factor beta receptor si. . . ; IDA.  
DR InterPro; IPR02400; GF\_CYSKNOT.  
DR InterPro; IPR003911; TGF\_TGFB.  
DR InterPro; IPR001839; TGFb\_N.  
DR Pfam; PF00019; TGF\_beta\_1.  
DR Pfam; PF00688; TGFb peptide; 1.  
DR PRINTS; PR00438; GF\_CYSKNOT.  
DR PRIMUS; PR01433; TGFbeta.  
DR PRODOM; PD00357; TGFb\_1.  
DR PROSITE; PS00250; TGF\_BETA\_1.  
DR Glycoprotein; Growth Factor; Mitogen; Signal.  
DR SIGNAL; 1 29  
FT PROBP 30 278  
FT CHAIN 279 390  
FT DISULFID 285 294  
FT DISULFID 293 356  
FT DISULFID 322 387  
FT DISULFID 326 389  
FT DISULFID 355 355  
FT CARBOHYD 82 82  
FT CARBOHYD 136 136  
FT CARBOHYD 176 176  
FT SITE 244 246  
SO SEQUENCE 390 AA; 44310 MW: 438151871LD689E CRC64;

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Matches 23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OQ 1 HEPKGYHANFLCLGPCKPYIWSLDT 23  
Db 312 HEPKGYHANFLCLGPCKPYIWSLDT 334

RESULT 15  
TGFL\_PIG  
ID \_TGF1\_PIG STANDARD; PRT; 390 AA.  
AC P07200; P08832;  
DT 01-APR-1988 (Rel. 07, Created)  
DT 01-APR-1988 (Rel. 07, Last sequence update)  
DT 05-JUL-2004 (Rel. 44, Last annotation update)  
DE Transforming growth factor beta 1 precursor (TGF-beta 1).  
GN Name=TGF1  
OS Sus scrofa (Pig)  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.  
OC NCBItaxID=9823;  
RN [1] \_SEQUENCE FROM N.A.  
RP

DR	HSSP; P01137; KLA.
DR	IntraPro; IPR002400; GF_cysknot.
DR	InterPro; IPR003911; TGF_beta.
DR	InterPro; IPR001839; TGFbeta.
DR	InterPro; IPR00111; TGFb_N.
DR	Pfam; PF00019; TGF_beta_1.
DR	Pfam; PF00688; TGFb_propeptide_1.
DR	PRINTS; PR0438; GLYSKNOT.
DR	PRINTS; PRO1423; TGBETA.
DR	PRODOM; PD000357; TGFb_1.
DR	SMART; SM00204; TGFb_1.
KW	Direct protein sequencing; Glycoprotein; Growth factor; Mitogen; Polymorphism; Signal.
PT	SIGNAL 1 29
PT	PROPEP 30 278
PT	CHAIN 279 390
PT	DISUFRID 285 294
PT	DISUFRID 293 356
PT	DISUFRID 322 387
PT	DISUFRID 326 389
PT	CARBONYD 325 355
PT	CARBONYD 82 82
PT	CARBONYD 136 136
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PT	VARIANT 114 114
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PT	CONFLICT 237 237
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Best	Local Similarity 100.0%; Pred. No. 9.9e-13;
Matches	23; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY	1 HEPKGHANFLGPPVYIWSLT 23
Db	312 HEPKGHANFLGPPVYIWSLT 334